DOCUMENT RESUME

ED 079 850 EA 005 325

AUTHOR	Trent, James W.; Rose, Clare
TITLE	An Analytical Review of Longitudinal and Related Studies as They Apply to the Educational Process. Supplement to the Analytical Review, Volume V.
INSTITUTION	California Univ., Los Angeles. Center for the Study of Evaluation.
SPONS AGENCY	National Center for Educational Statistics (DHEW/OE), Washington, D.C.
PUB DATE	73
NOTE	128p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Child Development; Classification; Curriculum Evaluation; Educational Planning; *Educational Research; Evaluation Methods; Higher Education; *Longitudinal Studies; *Measurement Instruments; Program Evaluation; *Research Design; Research Reviews (Publications); School Environment; *Student Development

ABSTRACT

This document is the fifth volume in a 5-part series that reports the results of a project undertaken to critically review and analyze major longitudinal studies of child and student development. These studies were conducted to discover the variables, techniques, methodologies, and problems pertinent to evaluative studies of the effects of schools and colleges on the growth and development of children and young adults. It was anticipated that study results would provide guidelines for the future research needed to enhance educational program planning, implementation, and evaluation. This volume provides (1) a "users' guide" to the previous materials with focus on their relevance to the U. S. Office of Education's ongoing Longitudinal Study of Educational Effects and (2) an enumeration of the more practical technical details of the longitudinal studies examined, such as study design, response rates, cost, administration of the instrumentation (including the time sequence and setting), nonrespondent characteristics, obstacles encountered in carrying out the research, especially effective procedures followed, and availability of resultant data for future use by other researchers. The presentation concludes with an annotated classification of the instruments and measurements used in the studies. Related documents are EA 005 321-324. (Document may reproduce poorly.) (Author/DN)

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AN ANALYTICAL REVIEW OF LONGITUDINAL AND RELATED STUDIES AS THEY APPLY TO THE EDUCATIONAL PROCESS

SUPPLEMENT TO THE ANALYTICAL REVIEW

Volume V

by

James W. Trent and Clare Rose

1973

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AN ANALYTICAL REVIEW OF LONGITUDINAL AND RELATED STUDIES AS THEY APPLY TO THE EDUCATIONAL PROCESS

SUPPLEMENT TO THE ANALYTICAL REVIEW

Volume V

by

James.W. Irvine

and

Clara Rowe

PREFACE

The present monograph constitutes a supplement to a series of four volumes which present the results of the Analytical Review of Longitudinal Studies, sponsored by the National Center for Educational Statistics of the U.S. Office of Education. The project was designed to analyze selected major longitudinal studies in order to discover variables, techniques, methodologies and problems pertinent to evaluative studies of the effects of schools and colleges on the growth and development of children and young adults.

Volume I contains the theoretical framework of the project and its applicability to research and development, together with the highlights of substantive and methodological issues raised by the studies selected for analysis. Volume II contains the dynamics of the development of the abstracting process underlying the project, the elements of the process, the typology of the variables included in the research, an overview of major issues suggested by the research reviewed as well as by the review process, and the abstracts themselves. Volume III emphasizes the research methodology, techniques and instrumentation used in the research in reference to ideal research norms. The synthesis and implications of the findings, including matrices of the findings and variables derived from the studies comprise Volume IV.

The present volume provides a "users' guide" to the previous materials with focus on their relevance to the U.S. Office of Education's on-going Longitudinal Study of Educational Effects. It also includes descriptions of the technical details of the studies analyzed together with an annotated classification of the instruments and measurements used in these studies.

Great appreciation is extended to Ann Salyerd, Jan Newmark and

Barbara Viscuso who played a major role in the report on the technical details of the studies and to Lawrence Krjukov and Ian Dickson who developed the classification of instruments.

Jason W. Trent

Principal Investigator

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INTRODUCTION

The present volume culminates the Analytical Review project undertaken by UCLA's Center for the Study of Evaluation under the auspices of the National Center for Educational Statistics of the U. S. Office of Education. The project constituted an intensive, critical review and analysis of a select group of major educational research studies on the impact of schools and colleges and other environmental elements on student growth and development. The objectives of the project were, briefly:

1. to provide a comprehensive summary of each study;
2. to provide a critical appraisal of the issues and objectives of the studies;
3. to evaluate the studies' research design and methodology;
4. to assess the appropriateness of their statistical designs and procedures;
5. to identify and indicate the merits of the instruments used in the studies;
6. to assess the range and nature of the variables included in the research; and
7. to organize the findings and variables of the studies, including the identification of the convergence, divergence, and relationships of the findings and their relevance to the understanding of student development.

A major purpose of the project was to provide inputs that might contribute to the formation and implementation of future studies of school effects contemplated by the Office of Education. The intent was also, that the project's efforts would be useful to researchers beyond the Office of Education who are

concerned with this area of investigation and development.

With these last two objectives in mind, the present volume includes the following materials designed to facilitate the use of the extensive resources of the previous four volumes of the Analytical Review:

1. Part I: a "users' guide" or elaborated index pointing out where major subject areas are discussed in the previous volumes;
2. Part II: an enumeration of the more practical, technical procedures through which the studies reviewed were implemented;
3. Part III: an annotated classification of the instruments used in the studies.

PART I

USERS' GUIDE TO THE ANALYTICAL REVIEW

The following guide to the Analytical Review considers first the substantive issues incorporated in the studies that were analyzed and second, the methodological issues analyzed that pertain to research on school effects. The Analytical Review references to these issues are organized around the objectives specified in the Request for Proposal (RFP) from the Office of Education for its current longitudinal study of high school seniors.* This was done to offer immediate input to the on-going national follow-up study of high school graduates. The objectives in themselves, however, and the manner of their organization and treatment herein pertain to longitudinal research on school impact generally as well as to the particular Office of Education's study of high school seniors.

References to the substantive issues are classified under the following headings:

1. Characteristics of college attendance
2. Determinants of educational and vocational decisions and development
3. School and college experiences
4. The relationship between student outcomes and high school and community characteristics
5. Student awareness of educational and occupational alternatives
6. Employment opportunities of college non-attenders and dropouts
7. Outcomes of disadvantaged students and other subpopulations
8. Motivation and college outcomes
9. Financial factors
10. College attendance among high aptitude students

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*Request for Proposal, Longitudinal Study of Educational Effects: National Longitudinal Study of the High School Class of 1972, U.S. Office of Education, November 22, 1971.

11. Ability and post-secondary school outcomes

The methodological issues include:

1. Determinants of educational and vocational decisions and development
2. Assessment of educational development and influence on post-secondary education choices
3. Student knowledge of and participation in financial aid programs
4. Delineation of subpopulations
5. Replication of data over different samples
6. Replication of data on specific characteristics over different samples

Under each heading the original RFP objective is quoted, each of which relates to the following general objective of the RFP:

> An assessment of the demand for all types of post-secondary education, including adult and vocational and technical education, the basic characteristics of students wanting to go on, where they go on, the factors which inhibit the realization of post-high school educational aspirations, and the characteristics of and the alternatives pursued by those who do not go on.

References are indicated according to a variety of subheadings under each category, first by volume, indicated by the appropriate Roman numeral and then by page. A few subjects deemed important by the project staff were omitted from the RFP objectives, including: the influence of region and community on student development; cognitive development; and the impact of different types of colleges and college experiences. References to these topics were incorporated in the guide. The studies analyzed failed to relate to only two of the subject areas raised in the RFP: students' knowledge and use of financial opportunities and replication of findings. There are great gaps and problems, however, in the amount and quality of information concerning the other areas, as indicated in Volumes I through IV.

The recommendation here is that the guide be used in conjunction with the matrices which comprise the Appendix to Volume IV. The guide points out what subjects the studies investigated (or what subjects should be investigated). The matrices show succinctly and graphically the findings of the studies and their interrelationships in reference to key independent and dependent or criterion variables. They also show the variables considered and their interrelationships. Hopefully, these materials together with the content of the different volumes will add to the improvement of research on school effects and consequent continuing improvement in the educational system itself.

SUBSTANTIVE ISSUES

1. Characteristics of college attenders.

RFP Objective 1: "To obtain profile data about the population of potential users of post-secondary education."

Analytical Review references:

Characteristics of college attenders, II, 102, 106-144, 181-182, 208-209, 290, 318, 322, 333-334, 347-349, 350-352, 384-387, 400-406; IV, 30-31, 35-36, 57-71, 90-92, 99-100, 120-124.

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Parental values, II, 144; IV, 30-31, 120-124

Perceptions of and attitudes toward college, II, 384-387

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Socioeconomic status, II, 102, 385-386; IV, 57-71

2. Determinants of educational and vocational decisions and development.

RFP Objective 2: "To determine what types of students make what educational and/or occupational choices and why; to establish meaningful flow data with sufficient cell densities to adequately understand the chain of decisions that

shape an individual's education, training and launching of a career and to establish the associative relationships necessary for predictive purposes."

Analytical Review references:

Ability, II, 106, 294-295, 297, 299, 321, 331, 333, IV, 101-102

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3. School and college experiences

RFP Objective 7: "To follow the educational progress of the students and those terminating early in each cohort to see how high school experiences and curriculum patterns, financial considerations and other factors are associated with various post-secondary career choices (educational and occupational, etc.) and perseverance and success in them; to identify the factors apparently associated with 'dropping out' and changing jobs after different intervals."

Analytical Review references:

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4. The relationship between student outcomes and high school and community characteristics

RFP Objective 8a: "To investigate the outcome differences among high school seniors attending schools where there is wide dispersion in ability and/or socioeconomic background as compared with schools whose students are relatively homogeneous for these variables."

Analytical Review references:

Heterogeneous versus homogeneous high schools, II, 116-126, 128, 141, 159, 161; IV, 47-49, 83-84

Ability grouping and performance, IV, 83-84

Integration and minority achievement, II, 28; IV, 47-49

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in college attendance, IV, 90-92

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5. Student awareness of educational and occupational alternatives:

RFP Objective 4: "To determine how aware or unaware students are of post-secondary education and employment alternatives, the options students see as open to them, and how this has been influenced by counseling; to find out the extent to which institutional recruiting efforts and federally funded recruiting projects affect post-secondary school choices and retention, and how employment opportunities may influence their effectiveness; to ascertain the extent to which the lack of information about post-secondary opportunities, either educational or occupational, limits the aspirations of students."

Analytical Review references:

Awareness of educational and occupational alternatives,

Counseling effects on

And college and non-college attendance among high aptitude students, II, 381-382

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And vocational development, II, 291-294; IV, 109

6. Employment opportunities of college non-attenders and dropouts

RFP Objective 8a: "To assess for four-year college dropouts and two-year students who fail to transfer to four-year colleges, the employment advantages bestowed by part-college, as compared with high school only, or with college

graduation."

Analytical Review references:

Persistence and vocational development, II, 290-291, 296-298, 322, 404-406; IV, 111-113

High school persistence and level of employment, II, 290-291, 296-298

College attendance, persistence, and employment, II, 322, 404-406; IV, 111-113

7. Outcomes of disadvantaged students and other subpopulations

RVP Objectives 8b: "To establish the outcomes and their determinants for lower socioeconomic and otherwise disadvantaged racial majority students and for disadvantaged racial minority students."

Analytical Review references:

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Race, II, 105, 127-128, 144-145, 387; IV, 45-46

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And socioeconomic status, II, 127-128, 144-145, 387; IV, 45-46

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And ability, II, 105

And educational outcomes, IV, 31, 121-124

And race, II, 127-128, 144-145, 387; IV, 45-46

8. Motivation and college outcomes

RVP Objective 8d: "To determine how students who enter college with only a limited desire compare with those highly motivated toward seeking a college education on such variables as dropout rates, alienation from the college

environment, social outlook, etc."

Analytical Review references:

Motivation, aspiration and college outcomes, IV, 115-116, 122

Orientation toward college and cognitive and psychological development, II, 209

9. Financial factors

RFP Objective 6. "To relate low aspiration choices for post-secondary education to the principle obstacles as perceived by the student, especially financial obstacles; to determine profiles of the student's knowledge of programs of financial aid, their applicability to his situation, and of his intention to take advantage of them."

Analytical Review references:

Financial assistance, II, 73, 158, 378; IV, 67-68

And achievement in mathematics, II, 158

And college attendance by socioeconomic status, II, 73; IV, 67-68

And lack of attendance in college among high aptitude students, II, 378

10. College attendance among high aptitude students

RFP Objective 8c: "To determine the proportion of high ability respondents who do not aspire to post-secondary education (higher, vocational or technical education) and why; the impact of Federal programs upon the aspirations and outcomes of the respondent, if any."

Analytical Review references:

College attendance

And ability and socioeconomic status, II, 318, 333

And non-attendance among high aptitude students, II, 378-382

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11. Ability and post-secondary school outcomes

RFP Objective 5: "To determine the influence of ability of the student on his post-secondary choices; to establish the specific association of these choices with test scores, the student's perception of his own ability and class standings."

Analytical Review references:

Ability and post-secondary outcomes, I, 6-9; II, 106, 254, 290, 294-295, 297, 299, 350, 379-380; IV, 27-29, 33-36, 99-100

And cognitive development, I, 6-9

College entrance and persistence, II, 290; IV, 99-100

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METHODOLOGICAL ISSUES

1. Determinants of educational and vocational decisions and development

[illegible] Objective 2. "To determine what types of students make what educational and/or occupational choices and why; to establish meaningful data with sufficient cell densities to adequately understand the chain of decisions that shape an individual's education, training and launching of a career and to establish the associative relationships necessary for predictive purposes."

Analytical Review references:

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2. Assessment of educational development and influence on post-secondary education choices

BPP Objective 3: "To develop the means for assessing the educational development, the influences and attitudes which led the student to the point at which he now finds himself (12th grade) and the extent to which these circumstances are related to his decisions about post-secondary pursuits, including occupational choices, military service, vocational, technical and higher education."

Analytical Review references:

Factors to be considered in the measurement of educational development, I, 6-9, II, 108, 142, 331; III, 4-13, 20-44, 52-90, 261-267

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Age in 5th grade and persistence, II, 142

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Types of analyses, III, 4-13, 20-44, 52-90, 261-267

(See also, references for number 2 described previously.)

3. Student knowledge of and participation in financial aid

NFF Objective 9: "To establish the means for assembling data on a continuing basis for determining the extent of student knowledge about and participation in financial aid programs."

Analytical Review references: no information available from the studies analyzed.

4. Delineation of subpopulations

NFF Objective 8: "To provide a vehicle through which certain subpopulations can be identified from the cohort and followed up more intensively. Such populations might include high achievers with limited financial resources, disadvantaged minority groups, and junior college, vocational and technical students, for example. Particular problems can be identified and studied separately."

Analytical Review references:

Identifying subpopulations, II, 107, 185; IV, 8, 185-188

Follow-up procedures, IV, 185-188

Pooling data on races, problem of, II, 185

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5. Replication of data over different samples

NFF Objective 10: "To see if the patterns which become apparent in the first high school senior sample remain consistent in the future samples of high school seniors."

Analytical Review references: no information available from the studies analyzed.

6. Replication of data on specific characteristics over different samples

NFF Objective 11: "To investigate the consistency from one cohort to another

of frequency distributions, of relevant characteristics, and probabilities of different paths of development which are observed."

Analytical Review references:

Replication of data among cohorts, II, 183, 187

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I On personality characteristics, II, 185

PART II

TECHNICAL DETAILS OF THE STUDIES

The best designed studies remain dependent upon the practical procedures followed in the implementation. Many potentially excellent research studies have floundered on poor "mechanics." Consequently, the technical details involved in carrying out a study are also important to consider. They should be well planned before initiating the research, and this is particularly true of longitudinal studies where effective follow-ups are critical to their success. As a result, the project staff inquired into the technical details of the evaluated studies and their cost in the hopes of learning particularly effective and economical procedures that could be replicated in the future.

The following items were examined:

1. the study design, including sampling techniques, the initial phase and follow-up features;

2. response rates both of institutions and subjects, depending on the nature of the study;

3. cost, both of individual techniques used and per subject, including any benefits accrued by the subjects;

4. administration of the instrumentation, including the time sequence and setting;

5. characteristics of non-respondents;

6. obstacles encountered in carrying out the research;

7. especially effective procedures followed; and

8. availability of resultant data for future use by other researchers.

Details on each of the above items are reported for each study analyzed in the project in the following pages. Most of the information was drawn from the study documents. In addition, each researcher was asked to submit any further information available not reported in the documents, although only a few could respond to this request. The fact is that such information is

lacking on a number of the items, particularly on cost data, obstacles and effective procedures. In a few cases the project staff was unable to reach the researchers or to attain a given document in order to complete missing data. Also, in the cases noted, details in the following pages were based upon the project's abstracting process which may have omitted certain items. But for the most part, lack of information resulted from its non-existence. In light of this fact, and in light of the importance of this kind of information, the urgent recommendation here is that future research reports give much more attention to the items developed for the enumeration of the following technical details.

As it now stands useable cost data were available only from the research of Astin and Panos and Project TALENT. The evidence is also that, regardless of cost, longitudinal response rates are higher for small samples such as those investigated by Super and Kagan and Moss. Response rates increase upon repeated attempts to reach non-respondents up to a point of diminishing returns in terms of cost. In addition, personal contact and the use of specialists in follow-up contacts contribute considerably to increased response rates. As can be surmised from the technical details reported in this volume, however, not only should researchers give more attention and more public attention to the mechanics of their investigations, but more research should be conducted to determine particularly effective and economical procedures for longitudinal research on educational impact.

Astin, A. W. and Panos, R., The Educational and Vocational Development of College Students

I. Study Design

A. Preliminary phase

1. Selection of sample

Target population: All freshmen at all accredited four-year colleges and universities in the U.S. as of Fall, 1961.

Sample:

a. Institutions: selection of institutions based on stratified sampling procedures which were not described. It was noted, however, that the purpose of the stratification was to maximize institutional diversity.

b. Students: In 1961, all freshman attending institutions which were included in the study participated.

c. Selections for the various analyses were as follows:

Random selection of every 8th case

Every 8th student from the original sample who returned the long form of the questionnaire

A subsample of the above for whom scores on the National Merit Scholarship Qualifying Test were available

Students from whom Graduate Record Examination Area Test scores and National Merit Scholarship Qualifying Test scores (including institutional consent for their use) were available.

2. Size of sample: Original sample in 1961: 127,217

B. Longitudinal four year study (1961-1965): Using a subsample of a group which was tested in 1961 and again in 1962, with final testing in 1965.

C. Follow-up

1. Retest in 1965 of a random sample drawn from the original group of students

Sample included: All students from institutions enrolling fewer than 300 freshmen in 1961

A random sample of 250 freshman attending larger institutions in 1961.

II. Response Rates

A. Institutions: 80.8% or 246 of those invited accepted.

B. Students:

1. In 1961, the sample consisted of 127,217 students

2. In 1965, 60,505 students were sent questionnaires: 30,506 (60%) returned the long form of the questionnaire. 5,889 returned the short form questionnaire after a second and third request

3. Total respondents from all waves = 68%

III. Cost

A. Cost per technique

1. The autotyped-live cover letters and pre-stamped special delivery method yielded the lowest cost per respondent ($1.60) and the highest percentage of returns (79.4%).

2. The mimeographed-metered stamp-first class method yielded the lowest percentage of returns (18%); although the cost per subject contacted by this method was only .70, the cost per return obtained was $3.16

B. Cost per subject -- included above

C. Benefits for subjects -- none

IV. Instrument Administration

A. Time sequence

1. A questionnaire developed by the staff was sent to all entering freshmen in 1961

2. Follow-up questionnaire was sent in 1965

B. Setting: questionnaires mailed to students at home

V. Characteristics of non-respondents

A. No information given in abstract

VI. Obstacles -- not discussed in abstract

VII. Especially Effective Procedures

The authors concluded that using first class mail, metered stamps, or mimeographed cover letters reduces the chances of obtaining a response.

The authors also concluded that different methods may be used for different purposes. For example, if the purpose of a follow-up of non-respondents is to increase the percentage of respondents, one of the initially more costly methods should be used. If, however, the purpose is to estimate the nature of the bias among respondents, a less expensive technique may serve as well.

The results of this study suggest that an investigator should choose one of the relatively less expensive mail techniques for the initial wave of questionnaires and then to use a technique that will assure a high rate of return among non-respondents in the follow-up.

VIII. Availability of Data

A. Available through American Council on Education

B. Computer data files — ACE's "data accessing system"

C. Each participating institution received a tabulation of data on its entering class and norms for the entire student population and for several subclasses of institutions.

Bachman, J., Youth in Transition

I. Study Design

A. Preliminary study: this study is part of a larger study undertaken by the University of Michigan's Survey Research Center in 1966 sponsored by the U.S. Office of Education. Panel survey combining the depth of a longitudinal design with the breadth of a nationwide sample.

1. Selection of sample:

a. Probability sample:

Sample of geographic areas using the Survey Research Center framework which divides the United States into 88 strata

One school was selected from each of the 88 strata, with the probability of selection proportionate to an estimated number of male tenth-graders

A random sample of about 30 boys was obtained within each selected school

b. Discretionary sample of outstanding schools:

10 schools that were judged by experts in the field of education to be exceptionally affective along one or more of the following dimensions: academic excellence, organizational innovation, student-faculty relations, community relations, innovation in vocational preparation, and promotion of student mental Health.

30 boys were selected at random in each of the discretionary schools.

2. Size of sample

a. Total initial sample: 2,277; 38 refused to participate, 26 missed the interview or one of the measures. Complete information on 2,213 boys (97.2% of the initial sample).

Initial sample from discretionary schools: 309; complete information on 306 boys representing 99% of the initial sample.

B. Longitudinal design (1966-1969) and cross-sectional

C. Follow-up design

1. Time 1: Oct-Nov. 1966; personal interviews and a battery of group-administered tests and questionnaires.

2. Time 2: Spring, 1968; personal interviews and a short battery of questionnaires.

3. Time 3: Spring, 1969; questionnaires administered in small groups.

4. Time 4: Spring, 1970; data collection similar to time 2.

5. Interim contact with students: project newsletters mailed to each boy at 6 month intervals along with a fact sheet requesting the respondent to update his address and answer brief questions about his current educational and occupational status.

6. Questionnaires for principals, teachers, and counselors.

II. Response Rates

A. Time 1: 2,213 boys representing 97.2% of the initial sample

B. Time 2: 1,886 boys representing 85.2% of the Time 1 group

C. Time 3: 1,799 boys representing 81.3% of the Time 1 participants and 79% of the initial sample

D. Principals: 100%

Counseling chairmen: 99%

Counselors: 87%

Teachers: 70%

III. Costs

A. Costs per technique or subject not reported

B. The total budget for the 6 year study was 3/4 million dollars

IV. Instrument Administration

A. Interviews and questionnaires administered to students in schools during school hours.

B. Preliminary data from principals obtained by mailed questionnaire. All other measures of principals, teachers, and counselors collected at school during time 2.

C. Interviewing sites for 1968 included a public library, municipal buildings, church activity rooms, etc.

V. Characteristics of Non-respondents — not reported

VI. Obstacles

A. The data are based on a clustered sampling design, involving some degree of weighting which means that the sampling errors will be larger than those involved in a random sample of equal size

B. The limitations of the sample become more severe when subjects of the sample, particularly those affected by the school clustering, are analyzed. For example, while the number of black students in the sample (250 - 11% of the total) is representative of their national population, the majority of these students were located in only a few all black schools. Even if this too is representative of the reality, this means that because of the sampling methods used, the data on blacks were drawn from only a few clusters and are therefore subject to much more sampling error than is the data for white respondents.

The sample may be a good national cross-section of all white 10th grade boys but it is not as good a sample of black 10th graders.

VII. Especially effective procedures: Cooperation of the schools exemplified by the high response rates of the principals, counselors, and teachers.

VIII. Availability of Data:

A. Data are presumably available through Michigan's Survey Research Center.

Coleman, J. S., Equality of Educational Opportunity

I. Study Design

A. Preliminary phase

1. Selection of sample

Population: Target population: elementary and secondary school students, teachers, principals and superintendents in the United States.

Experimental population: stratified sample of public elementary and high schools in the United States.

a. Sampling procedures:

1. Design based on a two-stage probability sample of public schools in the U.S.

2. Primary sample unit (psu) was 2,683 counties of which 209 were metropolitan areas and 2,674 were counties located outside metropolitan areas.

Counties were chosen because (a) census and other descriptive data were readily available for counties and (b) the county more than local school districts would provide greater internal heterogeneity which is more efficient.

3. Counties were then assigned to one of two groups, metropolitan or nonmetropolitan, according to whether they were included in a standard metropolitan statistical area or not.

4. The groups were then stratified by geographical location and by the percentage of non-whites in the psu.

5. Within each county and metropolitan area that was selected in the first stage, a listing of all public secondary schools with the 12th grade was obtained from the inventory of school plants. These listings were sent to the various State departments of education where the percentage of non-white enrollment in each school was indicated.

6. Since the grade spans for high schools varied, grade span coefficients were developed for each region and each grade span to obtain the necessary information about the estimated 12th grade and total enrollment in a psu. Within each stratum, the secondary schools were selected in a systematic manner, the sampling rate

being determined by the number of secondary schools to be included in the sample from the stratum to the total number of secondary schools in the stratum.

7. Feeder schools: For each secondary school selected in the sample, the lower grade schools which feed their students into that secondary school were identified in addition to the percent of the feeder school students ordinarily attending the high school. Each feeder school sending 90% or more of its students to a sampled high school was selected in addition to feeder schools with probability equal to the percent of students who go on to the sampled secondary school.

b. Sample size:

1. Institutions: Final sample size of high schools: 1,170
high school principals: 1,170

elementary school principals: 3,223

2. Students: All students in the sampled schools in grades 3, 6, 9 and 12 were tested. Grade 1: only half of the fraction of students sampled in the other grades.

Final sample size selected: 300,000

Racial composition: 450,000 whites
450,000 nonwhites
279,000 metropolitan - 62% of total enrollment
171,000 nonmetropolitan - 38%

B. One time cross-sectional study of public elementary and secondary schools in the U.S.

C. Follow-up design: No planned follow-up on original sample

II. Response Rates

A. Approximately 70% (818) of the principals of the 1,170 high schools that were selected returned useable questionnaires; 67% of the high schools (780) returned pupil questionnaires and tests.

B. For only 59% (689 out of 1,170) of the schools were both principal and pupil questionnaires available. This was due to serious errors in the administration and mailing of forms.

C. Approximately 74% (2,377) of the 3,223 principals of elementary schools in the sample that had a sixth grade returned their

questionnaires.

III. Costs - not reported

IV. Instrument Administration

A. Time sequence - one time only

B. All tests and questionnaires mailed to schools

C. Administered to students in their classrooms by regular teaching staff

D. Teacher and principal questionnaire completed by them at their school

V. Characteristics of non-respondents - not reported

VI. Obstacles

A. There were serious errors in the administration and mailing of forms which prevented positive identification of many of the principals questionnaires making it impossible to prepare an accurate list of non-respondents for follow-up. The nature of these errors is not explained.

VII. Especially Effective Procedures

The Educational Testing Service at Princeton, New Jersey appointed a number of consultants in the counties of the sampled high schools. They were to be available to answer questions and to advise on procedures and administration of the survey. In locations where a consultant who could be reached easily by telephone was not available, an ETS staff member was identified as the consultant. A total of 434 ETS consultants were appointed throughout the country.

VIII. Availability of Data

Data tape located at ETS.

Flanagan, J., et al., Project TALENT

I. Study Design

A. Preliminary phase: 1957-1960

Planning for the study:

Director and staff of six full time research workers took over a year to formulate plans for the project. Four panels of the nation's leading specialists worked with the staff. They represented

1. guidance and counseling
2. educational research
3. testing problems
4. manpower and sociology

Review of plans was conducted by an Advisory Council comprised of Presidents and Executive secretaries of the professional associations most interested in the findings.

Preparing for data collection

Regional coordinators were appointed to administer the program locally

1. distribute tests
2. arrange for school cooperation
3. advise schools on procedures
4. assist in following up non-respondents

Local school officials agreed to cooperate by coordinating the program in the schools; administering tests and collecting other data regarding students.

Analysis of data to be conducted under program staff at the University of Pittsburgh with special assistance from the American Institutes for Research.

1. Selecting the sample: Goal was to obtain a probability sample of high school students in the United States.

a. Drawing of stratified random sample of all secondary schools in U.S. which contained grade 12. Stratification was on basis of category of control (public, private, parochial).

1. Basic list of public senior high schools (all schools including a 12th grade) was supplied by the U.S.

Office of Education from their 1958-1959 Survey of Public Secondary Day Schools

a. Schools were sorted by states and arranged contiguously by the 9 U.S. Office of Education Regions.

b. Schools in the five largest cities (New York, Chicago, Philadelphia, Detroit and Los Angeles) were treated as a separate region.

c. Schools were sorted into four size categories.

Category	Size
1	0-24
2	25-99
3	100-399
4	400 and over

d. Within each size group, schools were ordered according to "holding power," the ratio of the number of 1959 graduates to the number of students in grade 10 in 1956-1960. Public schools were stratified on the basis of retention ratio.

e. Differential sampling ratios were used for each size category.

1/39 of category 1
1/20 of category 2
1/20 of category 3
1/13 of category 4

2. Basic list of non-public schools was provided by U.S. Office of Education and was checked against the Porter Sargent Handbook of Private Schools (Sargent, 1956). Information about Catholic Schools was supplied by the National Catholic Welfare Conference.

a. Selection of schools was on a straight 1 in 20 sampling ratio stratified only by region.

b. Measures of holding power and class size were not available consistently enough to permit stratification on these variables. Also evidence suggests these are less important in these schools.

b. Questionnaires were mailed to the principal with postage paid, self-addressed envelope. Extensive mail follow-up plus personal reminders of Regional Coordinators eventually produced nearly 100% response to this questionnaire.

1. Size of Sample

   a. Number of sampling units that participated and declined are as follows

	Participated	Declined	Total
Public	822	57	879
Parochial	114	11	125
Private	51	8	59
Total	987	76	1063

   b. 987 schools represented 93% acceptance by school

   c. All students in grades 9-12 (including 9th graders in associated junior high schools) were included.

   d. Total number of students: 400,000
   This represents between 4 and 5% of all U.S. high school students.
   Additional schools participated either by invitation or at their own request for some special purpose. These are not considered part of the probability sample.

B. Longitudinal: setting up situation for recontact

   1. Regional coordinators were appointed to be responsible for administration.

   2. Plans were formulated in advance for 1 year, 5 years, 10 years and 20 year follow-ups according to the following schedule:

Grade	1 year follow-up	5 year follow-up	10 year follow-up	20 year follow-up
12	1961	1965	1970	1980
11	1962	1966	1971	1981
10	1963	1967	1972	1982
9	1964	1968	1973	1983

   3. Efforts were made at the time of original testing in 1960 to enlist students' cooperation in the long-range project which would require cooperation over a period of years.

      a. Posters were distributed and used in schools (emphasizing the importance of the project.)

      b. Identification cards certifying membership in Project TALENT were given to each participating student. These

were to be kept and were intended to engender a feeling of personal identification with the project.

c. Students were given an explanation of the importance of the project, its nationwide scope and its long range goals. Students were informed their scores would be obtained and reported to their schools and that these would be helpful in vocational and educational planning.

d. Researchers regard these efforts as important and worth the cost of planning and effort.

C. Follow-up Design: 1 year after graduation from high school and 5 years after high school graduation.

1. Method: mail questionnaire; mailing labels were printed by computer and kept up to date in order to mail out reminders and additional questionnaires. 1961 questionnaire was 8 pages; 1962-1964 questionnaires were 4 pages in length.

2. Additional waves for non-respondents included:

a. four mailings or "waves" of the questionnaires approximately 1 month apart with reminder card between 1st and 2nd wave

b. computer control of completed questionnaires returned

c. all information on mail returned by post office was used to update address file

d. intensive follow-up of random sample of non-respondents

3. Intensive follow-up of a random sample of non-respondents by category of school attended, directed by regional coordinator in cooperation with school principals and, as a last resort, retail credit company.

Procedures used included:

a. check local telephone directory

b. check with telephone company information operator

c. check city directories

d. check with parents or relatives

e. check with last known (or former) employers

f. check with former neighbors

g. check with school last attended

1. guidance counselor
2. teachers
3. alumni office

h. check with chairman of class reunion committee

i. check with former classmates still living in community

j. check with official at church last attended

k. check with Department of Motor Vehicles

l. check with banks and/or finance companies

m. check with department stores

n. check voter registration records

o. check with wage tax or personal property tax bureau

p. check marriage license bureau records

q. check police department records

r. other (not specified)

4. No compensation for subjects

5. Test-re-test situations

a. for students in school, conditions were similar to regular test situations

b. for out-of-high school students, questionnaires were mailed to the homes

6. Special problems

a. keeping large numbers of addresses current

b. machine errors in mail processing

c. inaccuracy by students in filling in information on forms used at time of original testing. Researchers suggest allowance of ample time and supervision of students as they perform the information-giving tasks at the outset of testing.

XI. Response Rates

A. Response rates for each wave of mailing are reported in the volume, One Year Follow-up Studies

1. 1961: Out of 88,160 who were tested as 12th graders:

	Target	Number returned	Percent returned of total sample	Percent returned of total mailed in that wave
1st wave	88,160	39,200	45	45
2nd wave	50,860	14,300	15	28
3rd wave	36,970	5,200	6	14
4th wave	29,200	2,800	3	10
			69	

2. 1962: Out of 92,503 who were tested in 11th grade:

	Number returned	Percent returned of total sample	Percent returned of total mailed in that wave
1st wave	28,484	28	28
2nd wave	12,207	12	19
3rd wave	5,087	5	9
Total	45,778	45	

3. 1963: Out of 99,849 who were tested in 10th grade

	Number returned	Percent returned of total sample	Percent returned of total mailed in that wave
1st wave	23,150	23	23
2nd wave	11,976	10	13
3rd wave	8,383	7	11
4th wave	5,988	5	8
Total	51,497	43	

4. 1964: Out of 101,671 who were tested in 9th grade

	Number returned	Percent returned of total sample	Percent returned of total mailed in that wave
1st wave	23,215	19	19
2nd wave	8,554	7	9
3rd wave	7,332	6	8
4th wave	6,110	5	7
Total	45,215	37	

B. Figures 1 through 4 reproduced from the Project TALENT reports (pages following) show the cumulative percent of returns by wave.

1. These reveal a continual drop-off in percent of returns with each mailing within each grade.

2. The 12th grade follow-up response rate was highest. This may be because the study took place only one year after initial testing. Addresses were fairly recent and students could remember Project Talent more easily.

3. Reminder cards were spaced differently each year. Generally it was felt they had little effect on response rates; spurts in rate occurred immediately after mailing of additional copies of the questionnaire.

C. The total number of respondents for each of the 1 year and 5 year follow-up studies are reported in Five Years After High School. The totals include the number who responded to the regular mailings and the sample of hard-core non-respondents who were followed-up with special methods. The totals and percentages of questionnaires returned are as follows:

1 Year Follow-up Studies (1 year out of high school)

	Regular Respondents		Special Sample of Non-respondents		Total Respondents	
	Number	%	Number	%	Number	%
12	30,239	61.9	1,270	99.5	31,509	63.5
11	43,482	47.0	2,706	93.5	46,188	49.9
10	42,482	42.5	2,112	68.9	44,594	44.7
9	44,818	44.1	2,145	67.0	46,963	46.2

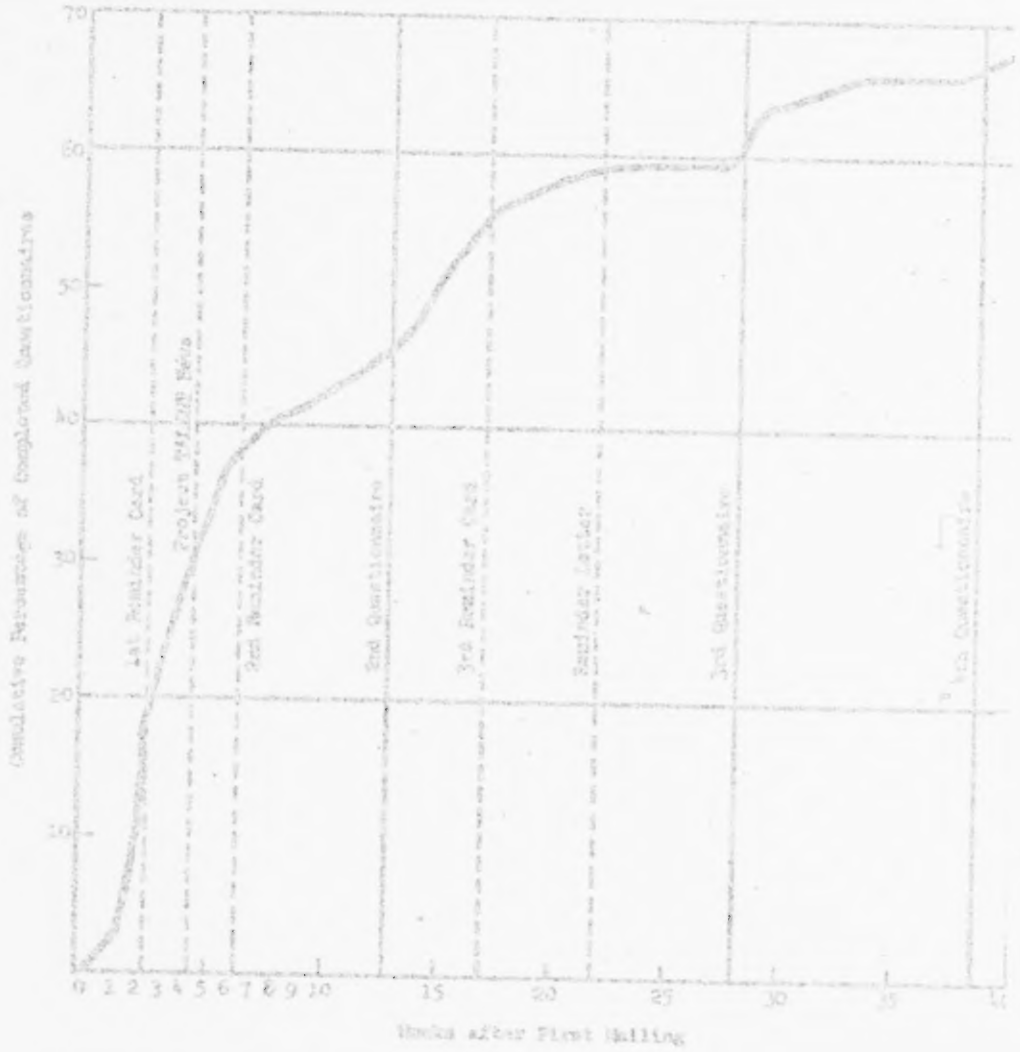
5 Year Follow-up Studies

	Regular Respondents		Special Sample of Non-respondents		Total Respondents	
	Number	%	Number	%	Number	%
12	30,724	37.8	1,803	86.0	32,527	40.1
11	32,421	35.0	2,365	92.5	34,786	37.6
10	31,766	31.8	2,044	77.0	33,810	33.9
9	27,132*	26.7*	1,572*	63.1*	28,704*	28.2*

*Approximate number or percent.

Weekly Mailing Schedule and Response Rate

Twelfth Grade

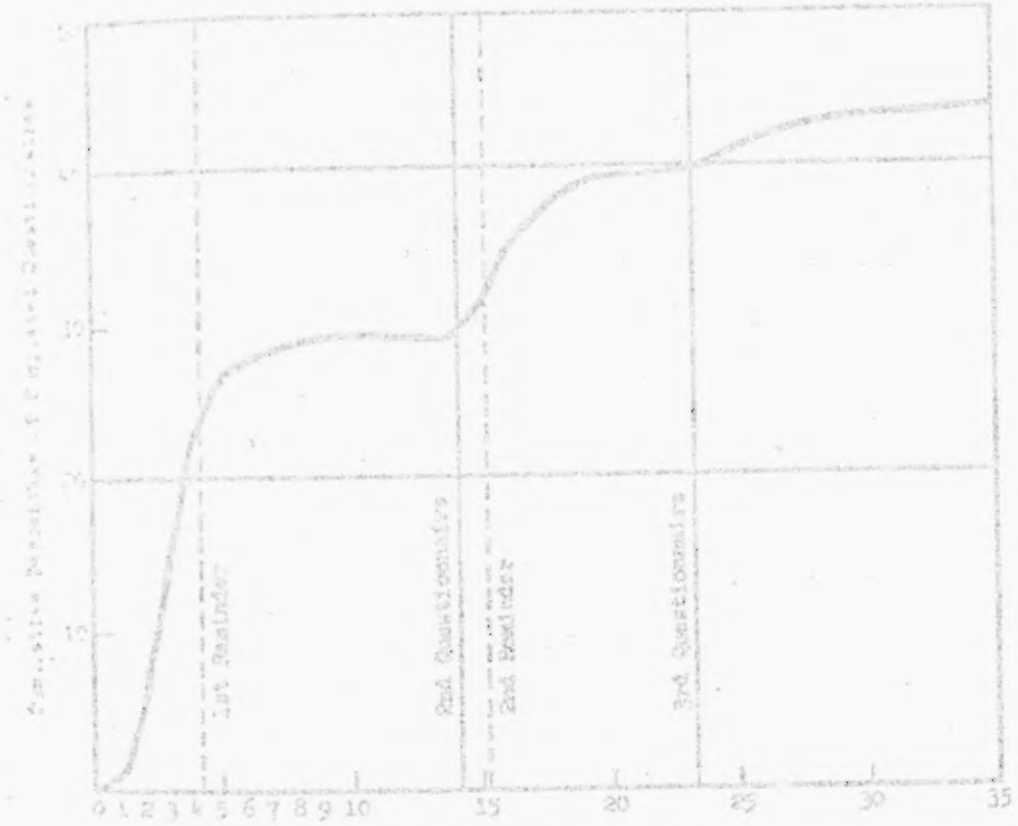


June 1961

Figure 1.

Weekly Mailing Schedule and Response Rate

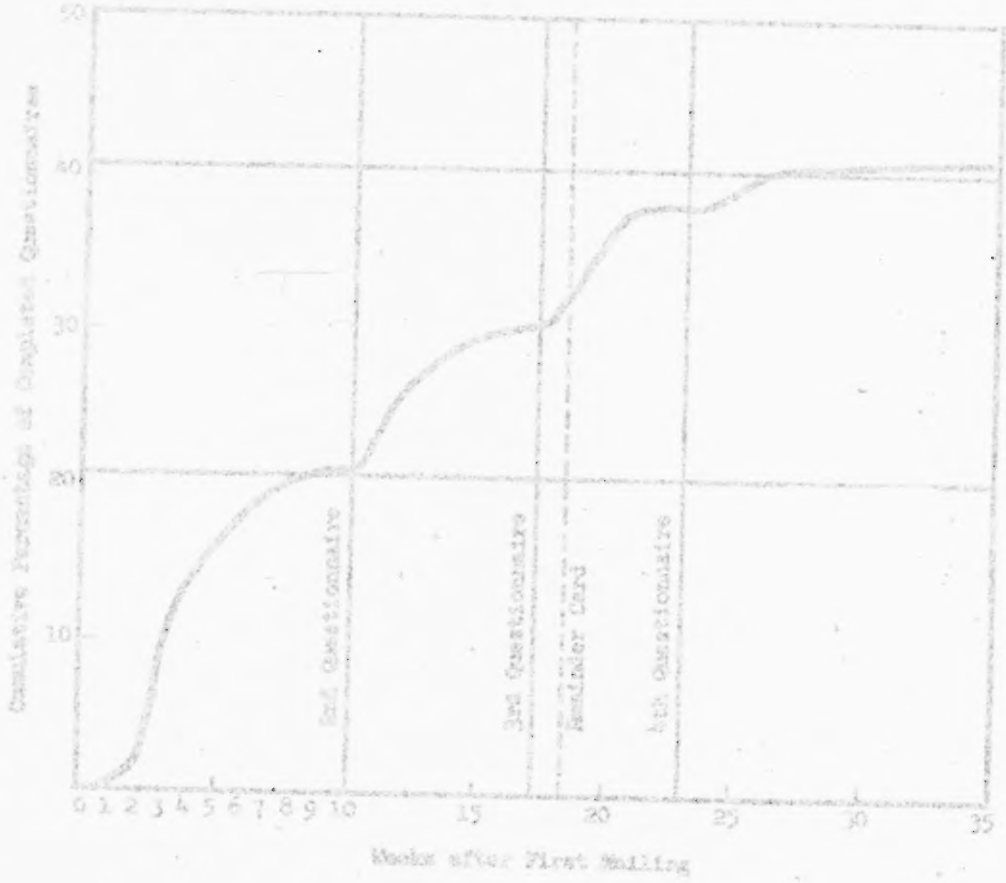
Eleventh Grade



May 1962 Figure 2

Weekly Mailing Schedule and Response Rate

Tenth Grade

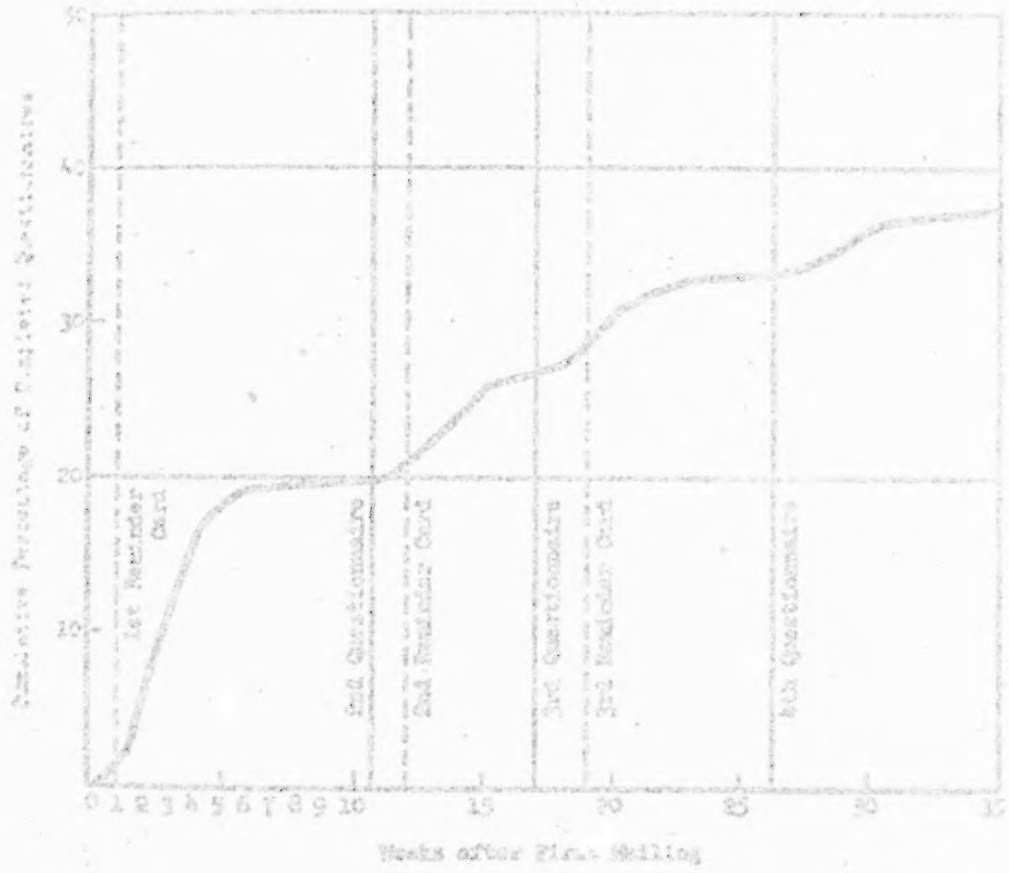


December 1963

Figure 3

Weekly Mailing Schedule and Response Rate

Ninth Grade



August 1968

Figure 4

The data in figures 1-4 do not correspond with those given in II A 1-4. No explanation is given for the discrepancies. (These figures are from different volumes.)

XII. Costs

A. Direct expenses include questionnaire printing, label preparation, sorting and mailing charges and postage.

1. Should a subsequent wave include names from whom questionnaires were returned?

Reasonable to try twice, on basis that different postal clerk may check more carefully; beyond this, cost per new address exceeds cost of using other methods to obtain better address.

2. How many waves are economical?

Cost per respondent compared to cost per addressee suggests a point at which additional attempts are not worth the additional cost. See chart of costs of 1961 questionnaire.

3. Cost: 1961 questionnaire

	Cost per addressee	Cost per respondent	Comments
1st Wave			
(cost includes 2 postal reminders)	$.174	$ .394	Sent as 3rd class mail, stamp affixed for return
2nd Wave			
(cost includes 2 postal reminders)	$.230	$ .819	Sent as 1st class mail, stamp affixed for return
3rd Wave	$.153	$1.089	Sent as 1st class mail, stamp affixed for return
4th Wave	$.110	$1.146	Sent as 3rd class mail, business reply return about 3000 names were removed from list because of bad addresses.

Cost: 1961 questionnaire (continued)

	Cost per addressee	Cost per respondent	Comments
			Cost per respondent would have been $1.85 had the questionnaire been sent but class with stamp for return.
All mailings	$.175	$.586	Costs include estimate staff time for hand mailing several thousand questionnaires that had garbled addresses or mailing labels

B. Indirect costs: receiving and processing returned questionnaires

1. Questionnaires returned, completed, by addressee

Postage for return	$ .07
Coding and rostering changes	.41
Punching and verifying cards	.25
Total	$ .73

2. Questionnaires returned by Post Office (all were returned for information)

Postage	$ .08
Coding and rostering	.17
Punching	.06
Other	.02
	$ .33

3. Above costs include clerical time but do not include staff time for supervision and development of the questionnaire coding keys.

C. Reduction of costs

1. Researchers found that in light of the response rate, a reply permit would be more economical than affixing a live stamp for return mailing.

2. As much of questionnaire as possible should be pre-coded.

D. Cost of non-respondents

1. Overall expense per non-respondent $7.00

2. Considerable variation between years

   a. Tenth grade (1963) was most economical. Regional coordinators were paid an honorarium based on number of questionnaires assigned. Additional payment was made for those completed. School personnel, and finally a Retail Credit Company, were paid for completed questionnaires. They were instructed to use phone calls rather than interviews where possible.

   b. Ninth grade survey average cost per respondent was $9.66. The rate of response was 73%. It was carried out entirely by Retail Credit.

3. Researchers find the most reasonable procedure for locating non-respondents is to have Regional Coordinators locate easy to find cases and assign the difficult ones to Retail Credit.

IV. Instrument Administration

A. Time sequence

	1 year follow-up	5 year follow-up	10 year follow-up	20 year follow-up
12	1961	1965	1970	1980
11	1962	1966	1971	1981
10	1963	1967	1972	1982
9	1964	1968	1973	1983

B. Setting for administration of tests

1. Home for those out of school

2. School for those still enrolled in high school

C. Person administering tests

1. Respondent, if out of school

2. Teacher, where student was in high school

D. Response rates: school vs. home

Nearly 100% of students responded when in a school setting

Less than half of students responded to questionnaires mailed to the homes.

V. Characteristics of Non-respondents

Comparisons of respondents, all non-respondents and the 5% sample of non-respondents followed-up in the special study indicate that:

1. Respondents to the mailed questionnaire tended to have greater academic aptitude than non-respondents and to come from families at slightly higher socioeconomic levels.

2. The 5% sample of non-respondents and the entire group of non-respondents are very similar.

3. There was somewhat greater mobility in the non-respondents group.

4. There was a slight tendency for regularity in school attendance to be associated with responding to the mail questionnaires.

5. Type of community was not associated with the tendency to respond to the mail questionnaire but long residence in a community was.

6. Students whose fathers held professional or technical jobs were more likely to be respondents. Students whose fathers were workmen or laborers and students who did not know what their fathers did were more likely to be non-respondents. As the educational level of the parents increased, the incidence of returning the questionnaire increased.

VI. Obstacles

A. Major problem was keeping track of the sample.

1. Certain areas such as Navy bases, (e.g., Pensacola, Florida) had high proportions of non-respondents since personnel in these places frequently leave no forwarding address.

2. Women who marry are frequently hard to locate because of change of name and address.

B. Problems of maintaining up-to-date file increase each year (See response rates, II, A, B, C)

C. Problem of maintaining interest and cooperation over a period of years presents a continual challenge.

D. 5% of the mailing labels obtained by machine processing were seriously enough in error to prevent delivery of the questionnaire. The researchers strongly recommend that good supervision, good

help, and allowance of time be available to students while they are coding such data onto special answer sheets. These sheets should be inspected by teachers in order to correct obvious errors before the answer sheets are sent to the school office for shipment.

VII. Especially effective procedures

A. Efforts to enlist long-term support from the students at the time of the original testing:

1. Explanation of the scope and importance of the project

2. Distribution of identification cards to each student.

B. Distribution of Project TALENT newspaper to participants each year:

1. To keep interest and cooperation

2. To inform participants of some of the results

3. To remind those currently filling in questionnaires to complete them

4. To maintain an up-to-date mailing file. Post office maintains forwarding addresses for only two years, so it is advisable to send yearly paper to all participants.

C. Presence of Regional Coordinators to do follow-up on non-respondents

VIII. Availability of data

A. Accessibility:

1. Location: in data bank at Computation and Data Processing Center of the University of Pittsburgh.

2. Procedure

a. Submit inquiry to Director of Data Bank (contacting staff of Project Talent is to insure needs can be met through this data)

b. Submit proposal to research group; contract letter will be sent if arrangements are possible

c. Usually Data Bank personnel carry out analyses as formulated by researcher, then provide computer print-outs so researcher can make own interpretation and write own report. In some circumstances the Data Bank may

supply raw data on cards or tapes after removing identifying information.

B. Form of data files: tapes, cards

C. Description of Code Book

No specific book available to the AR project, but descriptions of the coding procedures are included in each publication. Items in the code book described in both weighted and unweighted categories, scored tests and individual items. Not really necessary for researchers since the office does the preparation of programs.

D. Data Bank Handbook -- available from Project TALENT office in Palo Alto, California, entitled "A National Data Resource for Behavioral, Social and Educational Research."

E. Cost depends on individual projects. In the past, the cost has ranged from less than $100 to $7,000. Median cost -- approximately $1,500. Costs are a function of a number of factors involved in the study which include: the number of grades, cases and variables involved; the amount of variable recoding and the number of tape merges necessary; and the type of analysis or analyses required.

IX. Suggestions of Researchers

A. Experimentation on the follow-up process itself should be undertaken. This would involve randomly assigning addresses to different follow-up procedures. Then there could be a comparison of subsample response which would produce information regarding most effective follow-up studies.

B. Use of plenty of time and supervision when students fill in original information blanks. Coded information on records should be carefully checked. Researchers regard such checking as indispensable in large studies.

C. For a long term project funds and time should be devoted to arousing student identification with the project and in motivating them to respond.

Hilton, T. L., A Study of Intellectual Growth and Vocational Development

I. Study Design

A. Preliminary phase

1. Selection of sample

a. Institutions: High schools were chosen to represent variables of geographic location, size of system and proportion of graduates attending college. No random sampling procedures were used to select these schools. In addition, the sample consisted of students from junior high school and elementary schools feeding the high schools.

b. Students: Except for the grade levels tested, 5, 7, 9, 11 and 12, no other characteristics of the students were given.

2. Sample size

1961 - 32,000 students -- 9,000 each of 5th, 7th, and 9th grades and 5,000 11th graders

1963 - 40,000 students - 93% of original sample were retested plus all other students now in these classes.

After this the total sample increased by 25% at each testing, while the core sample decreased by 15%, so that at the time of the final administration there were 45,901 in the total sample of whom 15,126 of the original 1961 participants remained.

3. Longitudinal study: The period of time covered for each student varies from a minimum of 1 1/2 years for the first group of 11th graders tested in 1961, who were tested for the last time in their senior year in 1963, to a maximum span of 8 years for the first group of 5th graders tested in 1961, who were tested every two years through 11th grade and again in 12th grade.

1. Cross-sectional study: During the first collection of data in 1961, students in 5th, 7th, 9th and 11th grades from various regions and communities were sampled. Furthermore, at each subsequent administration, as each class was tested, all students, whether or not they were part of the 1961 sample, were likewise tested.

C. Follow-up design

1. Grade 5: Tested in Sept-Oct, 1961; Sept-Oct, 1963; Sept-Oct, 1965; Sept-Oct, 1967 and as seniors in Jan-Feb, 1969

2. Grade 7: Tested Sept-Oct, 1961; Sept-Oct, 1963; Sept-Oct, 1965;

and as seniors in Jan-Feb, 1967

3. Grade 9: Tested Sept-Oct, 1961; Sept-Oct, 1963; and as seniors in Jan-Feb, 1965

4. Grade 11: Tested Sept-Oct, 1961, and as seniors in Jan-Feb, 1963

II. Response Rates

A. 93% of original sample on first testing

B. Core sample decreased by 15% at each testing

1. Sample size does not reflect this report as noted in section I, A, 2 of this abstract.

III. Cost

A. Per subject - not reported

B. Per technique - not reported

C. Benefits for subjects -- scores available to them

IV. Instrument Administration

A. Time sequence - every two years from grade 5 and then senior year

B. Administered at sample schools by teachers and counselors.

V. Characteristics of non-respondents

Not specified

VI. Obstacles

A. Special problems: The problems identified by the author were primarily those common to research of naturalistic data. The major weakness of the Growth Study, then, was of self-selection; that is, that students with better scores chose college preparatory subjects and those with lower scores went into other programs. Although multivariate analyses of covariance were used in order to adjust for such differences, this resulted in unequal cell frequencies. Furthermore, the author writes, "What logic is there in asking what difference it would make if the groups in question had been equal initially, when in fact they were not?" (p. 165)

VII. Especially Effective Procedures

A. The author believed that multivariate analysis of covariance and

- moderated prediction were useful in analysing naturalistic data.

VIII. Availability of data - no information

Husen, T. (Ed.), International Study of Achievement in Mathematics — A Comparison of Twelve Countries

I. Study Design

A. Preliminary Phase - began June, 1961

Construct testing instruments
Make plans with International committees for administration, and data collection

1. Selection of sample

a. 12 countries

Within each country four types of samples based on both experience with and type of mathematics

Population 1 — all students studying in institutions not primarily concerned with goal of college preparation

1. Population 1a: All pupils who were 13.0 - 13.11 years of age at the date of testing

2. Population 1b: All pupils at the grade level where the majority of pupils of age 13.0 - 13.11 were found

Population 3 — included schools "from which university or equivalent institutions of higher learning normally recruit their students."

1. Population 3a: All pupils "studying mathematics as an integral part of their course."

2. Population 3b: All pupils "studying mathematics as a complementary part of their studies."

b. Sampling procedure

1. Two stage probability sampling

a. Random sample of schools in each population

b. Within each school selected, a random sample of students was selected

c. Countries participating were those expressing an interest in such research by sending representatives to UNESCO Institute of Education Assemblies

2. Size of sample

a. Approximate numbers: 150,000 students
13,000 teachers
5,300 headmasters

Range of schools - 8 in France to 395 in the U.S.

Range in number of students - 50 in the Netherlands to 6,544 in the U.S.

Approximately an equal number of males and females except in population 3a which was about 75% males.

B. Cross-national survey

1. Tests administered one time only

2. Four-year period, June, 1961 to Dec., 1965

II. Response Rates

A. Apparently 100% since tests were administered to selected population in school setting (not specified in abstract)

III. Cost - was not discussed in abstract

IV. Instrument Administration

A. Administered one time only

B. Tests administered in schools

C. Tests administered by teachers

V. Obstacles

A. The only problem discussed in the abstract was a basic sampling problem of securing a representative sample of age and grade level in each country

IV. Especially Effective Procedures - Not specified

VII. Availability of Data - Not discussed (presumably available through UNESCO Institute of Education Assemblies)

Jones, M., et al, The Course of Human Development

I. Study Design

A. Preliminary phase (began 1928)

1. Selection of sample

a. Every third child born in Berkeley, Cal. between Jan. 1, 1928, and June 30, 1929

b. Selected on arbitrary ordinal basis from Berkeley birth registry

2. Size of sample: 248 children and their families (245)

B. Longitudinal design for recontact

1. 1928 - present - on-going

2. Test-re-test on same sample

a. Clinical approach

1. interviews and projective tests or

2. clinician visits to subject and subjective assessment made

3. Comparison of experimental and control groups

4. Initial interview with mother (retrospective - when subject was 21 months old)

C. Follow-up design

1. Method - Interview and test

a. Interviews with child, parents and peers

b. Retrospective recapitulation interviews with parents and subject (at age 17)

c. Recapitulation interview with subject at age 30 and 40

d. Cumulative records of physical and mental development

2. Additional technique - control group

a. Inventory-type interview of subject and mother

b. Recapitulation interview at ages 17 and 30

c. Periodic physical and mental evaluations

3. Compensation for subjects; not stated in abstract

4. Special problem: sample shrinkage over time due to death, moving, incapacitation, etc.

II. Response Rates

A. Cooperation of those selected initially not stated in abstract

B. Follow-up data on 68% of original sample at age 30 and 40

No figure given for age 17 response rate

C. Complete longitudinal data on 68% of sample

III. Cost -- No information given in abstract

IV. Instrument Administration

A. Time sequence:

1. Retrospective interview of mother (child at 21 months)

2. 17 years of age

3. 30 years of age

4. 40 years of age

B. Setting: clinical setting or clinician visit to subject (abstract does not indicate where these visits took place or the specific type of clinical setting)

C. Abstract does not indicate who administered tests or conducted interviews

V. Characteristics of non-respondents

Sample shrinkage due to death of subjects; subjects moved away from Berkeley; incapacitation, etc.

VI. Obstacles

A. The number of years involved in the study presents certain problems in itself:
1. Sample became smaller due to factors mentioned above

2. Sample is no longer representative of current Berkeley population due to differential population shifts

3. No information given in abstract on difficulty of keeping track of original sample

VII. Especially effective procedures

No information in abstract

VIII. Availability of Data

No information in abstract

n, J. and Moss, H. Birth to Maturity

I. Study design

A. Preliminary phase

1. Selection of sample: not discussed. The assumption is made here that the sample represents the population of the school at the initiation of this project which was coincident with the birth of the Institute.

2. Size of sample: 44 boys and 45 girls; 89 total

B. Longitudinal design

1. Study in progress 30 years (1924-54) studying intensively the first 14 years of life for each child.

2. Behavioral observations made in subject's home, nursery school, day camp and school

C. Follow-up design

1. Observation of child's behavior: At home with mother and child - twice yearly from birth to 6 years. Once yearly from 6 to 12.

2. Observations of child at experimental nursery school and day camp: half day sessions for 3 weeks -- twice yearly 2 1/2 to 5 and annually from 6 to 10.

a. Interview with child - annually 6 to 12

b. Observation in school - semi-annually first to eighth grade

3. Testing: Thematic Apperception and Rorschach every 3rd year from age 8 1/2 to 17 1/2; Minnesota Multiphasic and Kuder Preference once during adolescence - age 17.

4. Mental development testings:

Gesell Developmental Schedule - 6, 12, 18 and 24 months
Merrill-Palmer - 18, 24, and 30 months
Stanford Binet - 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, 6, 7, 8, 9, 10, 11, 12 and 14
Wechsler-Bellevue - age 13 and 17
Primary Mental Abilities: age 17

5. Observations with mother: twice yearly birth to 6 years of age of child; annually 6 to 12

Interview: annually birth to adolescence

6. Mental testing of mother and father: 1 administration (no age level given)

II. Response Rates

A. Complete longitudinal data including adult assessment obtained on 71 of the original 89 subjects

1. 16 subjects moved away

2. 2 refused to cooperate

III. Costs - not reported

IV. Instrument Administration

A. Time sequence: detailed in section IC of this report

B. Setting

1. All tests and adult interviews held at Institute

2. Interviews and observations held in subject's home and at Institute

3. Administered by Institute staff

V. Characteristics of non-respondents - not reported

VI. Obstacles

A. The authors mention three potential sources of error in their longitudinal ratings

1. "The rater's theoretical conceptions about the interrelationships among the longitudinal variables which may have unconsciously influenced his ratings."

2. "Evaluation of the child at age 10 may have been influenced by his earlier ratings."

3. "The fidelity of the original source materials might be called into question."

VII. Especially effective procedures: involvement of the whole family in the program

VIII. Availability of Data

A. Data bank available at the Fels Institute, Yellow Springs, Ohio

B. Form of data files: tape

C. No description of code book given

Katz, J., et al. No Time For Youth

I. Study Design

A. Preliminary phase (1961)

1. Selection of sample: target population was freshmen college students in the U.S. -- actual sample was not representative of target population.

a. Institutions: two highly selective universities -- Stanford and University of California, Berkeley. No sampling used -- apparently institutions were chosen for their proximity to the researchers.

b. Students: the entire freshmen class at Stanford and two-thirds of the freshmen class at UC Berkeley. No sampling.

2. Size of sample:

a. Total freshmen administered questionnaire:
Berkeley: 2,014 Stanford: 1,303

b. Total interview subjects:
Berkeley: 164 Stanford: 110

c. Total seniors administered questionnaire
Berkeley: 501 Stanford: 484

B. Longitudinal design

1. Four-year study (1961-1965)

2. Test re-test on same sample

3. Interview subjects were randomly selected from the initial questionnaire respondents after being classified into five categories on the basis of their scores on specified sections of the questionnaire.

C. Follow-up design

1. Follow-up questionnaire was administered to seniors at the two institutions who had participated in the study as freshmen

2. Follow-up questionnaire was administered to random sample of seniors at the two institutions who had not participated in the study as freshmen for representativeness.*

*No follow-up on non-respondents was reported

II. Response Rates

1. No response rate cited for initial testing

2. 86% of original 274 interview subjects completed all interviews

   a. 11 initially refused to be interviewed

   b. 26 subsequently dropped out

3. 60% of those students who were initially tested as freshmen and were in attendance at the two institutions as seniors, completed the follow-up questionnaire.

   Actual percent of total N completing follow-up questionnaire:

   Berkeley: 24% (501) Stanford: 37% (484)

III. Cost - no information cited in abstract

IV. Instrument Administration

A. Time Sequence

1. Initial questionnaire administered in Fall, 1961.

2. 1-3 hour intensive interviews were administered bi-annually beginning in Fall, 1961 - 1965.

3. Follow-up questionnaire administered to seniors in 1965.

B. Setting: no clear information cited in abstract

C. Administration of tests, interviews: no information

D. Differences in response rates according to different techniques: no information cited

V. Characteristics of Non-respondents

A. Initial testing -- no information cited on characteristics of non-respondents

B. Interview subjects -- no information cited on drop-out characteristics in abstract.

C. Follow-up questionnaire administration -- no information cited in abstract.

VI. Obstacles -- none cited in abstract

VII. Especially Effective Procedures (none cited in abstract.) Indications

were that the interview subjects were very cooperative and that the authors considered them their richest source of data. There was no mention of an attempt to follow-up on seniors who had transferred to other colleges, or dropped out of college since their initial testing as freshmen, which would seem to be a limitation of the study.

VIII. Availability of Data: nothing cited in abstract.

Lehmann, I. J. and Dressel, P. L. Changes in Critical Thinking Ability, Attitudes, and Values Associated with College Attendance, 1963

I. Study Design

A. Preliminary phase

1. Selection of sample

a. School: Michigan State University. The authors felt that this university was representative, stating: "It can safely be assumed that students attending a large public institution, such as Michigan State University, represent almost all the shades of social classes" (p. 24). This is the only information reported in this volume concerning the representativeness of the sample.

b. Students:

Experimental population: All students who were native born and who were first-time students enrolled at Michigan State University in the fall of 1958 and who completed, or were completing, at least 10 quarters of school at either Michigan State University or other schools in the spring of 1962.

Control population: All students who were also native born, first-time enrolled students at Michigan State University in the fall of 1958 but who had withdrawn before they had finished 10 quarters and who were not in college in the spring of 1962. The control group was divided into three sub-groups:

1C: those who, by spring, 1962, had completed less than one year of college

2C: those students who had completed between one year and two years

3C: students from the original sample who had finished between two and three years of college.

2. Size of sample

Original sample: 2,746 students tested as first-time native born freshmen starting Michigan State University in the fall of 1958 (1436 males and 1310 females)

B. Longitudinal four-year study: 1958-1962

C. Follow-up design

1. Experimental group: These students were contacted during spring,

1962, to set up a testing appointment with the researchers. No description of non-respondent follow-up was given. No explanation was given of how 56 students at other schools were reached. Useable data were submitted by 68% of the experimental group.

1. Control groups: Several weeks after the first wave of materials were sent, reminder letters were mailed to non-respondents. Again, several weeks after this a post card was sent to remind students to return the test materials. Finally, after two more weeks, non-respondents near large centers received another post card. The total number of useable responses received was 60% of the total withdrawal population.

II. Response Rates

1. Fall, 1958, 2746 subjects tested

2. Spring, 1962, there were 1725 students who were completing or had completed at least 10 quarters of college (the experimental group) and 1021 who had not, comprising the control group. This latter group included 5 students who had been committed to mental institutions and one female who had entered a convent.

The follow-up samples consisted of:

	Males	Females
a. Experimental group:	658	530
b. Control:		
1C (Group I)	110	147
2C (Group II)	61	104
3C (Group III)	90	101
Total control:	261	352

Percentage of useable test results received:

	Males	Females
Experimental:	67	68
Control groups: I	51	60
II	54	49
III	68	67
Total control:	56	58

III. Cost

A. Cost per subject not given

B. Benefits to subjects: The controls were told that they would receive a copy of the results of the study if they wished; 95% so indicated. Apparently a similar offer was not made to the experimental subjects.

IV. Instrument Administration

A. The only testing periods that were clearly discussed were the initial testing in Fall, 1958, and the follow-up in Spring, 1962.

B. Setting for administration: not stated in abstract

C. Who administered forms: not stated in abstract

V. Characteristics of non-respondents

A. Non-respondents from preliminary sample: not discussed in abstract

B. Dropouts - became part of the control groups.

C. Characteristics of respondents who turned in unuseable data -- not discussed in abstract

VI. Obstacles

The authors were not able to test the critical thinking ability of the controls due to the timed nature of the test used and, instead, tested samples of sophomores and juniors at Michigan State University in order to obtain a group to compare with the experimental subjects.

VII. Especially Effective Procedures

The authors found that telephoning non-respondents was effective in gaining cooperation, and they recommended using such a technique whenever possible. (It should be noted, however, that only three contacts were made in this way)

VIII. Availability of Data: Information not given

Ineffective procedures: The authors mailed the first packet of materials to the controls by "certified mail, addressee only, return-receipt requested" post, a procedure costing $.85 plus postage per envelope. This method was used in order to insure that the packet would either be received only by the subject or, if the subject was not found, the envelope would be returned to the research project. However, the authors commented in a footnote: Our

experience with this method vividly demonstrated the variation among the post offices, carriers, and postmasters throughout the country. In many cases, some of the materials returned as "not deliverable" were re-sent to another address and completed materials were received from the subject. It was also evident that this method is not worth the added expense over conventional mailing practices since very little data is gained from uncooperative postal officials (p. 35).

Newcomb, T. M., et al, Persistence and Change: Bennington College and Its Students After 25 Years

The Bennington Study is a four-year study of all students attending Bennington College during the years 1935-1939 with a follow-up on the same sample 20 to 23 years later. A re-study of the college environment and students attending Bennington College was done in 1959-1962 as a comparison.

The technical report is divided into three sections: the preliminary study (1935-1939), the follow-up study done 20 years later, and the re-study done in 1959-1962. In order to better delineate the technical aspects of the entire study, each phase of it is being treated as a separate study.

Antecedent Study

I. Design of Study

A. Preliminary phase - 1935

1. Selection of sample

a. Bennington College selected for following reasons:

Availability of data: data, especially personality data was available for entire student body

Size and theoretical orientation: the College was a closely knit community of manageable size in which the issues symbolized in the "New Deal" were taken seriously

b. Entire student body of Bennington was contacted

B. Longitudinal study

1. Entire student body was again contacted in 1936, 1937, and 1938

C. Follow-up design

1. In 1935 a mimeographed letter was put in each student's mailbox notifying her that a questionnaire would be sent in two days

a. Code number on every envelope for identification

b. Cover letter accompanied questionnaire stressing confidentiality

c. Follow-up letter urged subject to respond

2. Statement of intent: During the Fall of 1936, 1937 and 1938

letters were sent to each student stressing importance of their cooperation.

a. Each student was asked to sign a statement of intent to participate.

b. During the three year period about 80% of the students signed these statements and of that group 75-90% actually returned each questionnaire.

3. The questionnaires were distributed to the students in their mailboxes and returned by them to a locked box at a reception desk.

4. Student records:

a. Instructors provided student work, a brief essay regarding students' strengths and weaknesses and they were asked to include comments concerning special qualities.

b. Counselors wrote a detailed and systematic account of students' development.

c. No medical records were included but college psychologists or psychiatrists gave comments.

II. Response Rates

A. First Wave: Of the 250 students who were sent the first wave of questionnaires, only two refused to return the questionnaire.

B. Approximately 87% of the questionnaires were returned in the fall of the 2nd, 3rd and 4th years.

III. Costs

A. Cost per subject or per technique was not reported.

B. No monetary compensation offered to subjects.

Mimeographed summary of results was available to subjects.

IV. Instrument Administration

A. Once a year for four years, questionnaires were distributed to the subjects.

B. Questionnaires were placed in students' mailboxes.

C. Questionnaires were completed under subjects' own supervision and returned by them to a locked box (resembling a "ballot box" at the reception area of the college).

V. Characteristics of Non-respondents

A. No information given regarding characteristics

B. The two or three students who did not respond each year, did cooperate when personally contacted by the interviewer

VI. Obstacles

There were no real obstacles reported in the antecedent study.

VII. Especially Effective Procedures

A. The required, signed statement of intent appears to be effective in securing the cooperation of students

B. One student residing in each living hall was responsible for the collection of the statements of intent and for urging the students to respond

C. Contacts by the interviewer to non-respondents proved very effective in getting their cooperation

VIII. Availability of Data — Card data files and code books

Follow-up Study

I. Design of Study

A. Conducted 20 years after antecedent study beginning in 1960

1. Sample Selection

Members of the graduating classes of 1938, 1939 and 1940 who had participated in the original study for at least three years.

B. Follow-up design

1. Interviews: Of a total of 147 women for whom current addresses were available, interviews were held with 129.

2. Questionnaires: In 1961, questionnaires were mailed to an additional 16 women, some of whom were living overseas. Nine were completed and returned; one refused to be interviewed or to answer the questionnaire; one was inadvertently never asked to participate.

3. Questionnaires were also mailed to all other former students

who had participated in any way in the original study, not necessarily for three years, and for whom current addresses were obtained.

II. Response Rate:

A. Interviews: Almost 94% (138 of 147) having known addresses participated

B. Questionnaires: of the 16 questionnaires mailed to women who had participated in the original study for at least three years, 9 were completed and returned

C. Of the 329 questionnaires mailed to the other group, 207 were returned in useable form, representing 62.9% of the total

D. Of the 525 who had participated in the original study, 15 were deceased and 24 left no mailing address with the Alumnae Office. As a result, 486 women became the focus of the follow-up study

E. In 1964, a questionnaire, concerning political preferences and opinions, was mailed to nearly all of the population of women who had been interviewed earlier. Of the 133 graduates for whom addresses were then available, all but nine (7%) returned the questionnaire, representing a 93% rate of response.

III. Cost

A. Cost per technique or per subject was not reported

B. There was no compensation for the subjects

IV. Instrument Administration

A. Study does not elaborate on the qualifications of the interviewers or any special technique used

B. The questionnaires were mailed to the subjects and completed without supervision

V. Characteristics of non-respondents

A. 73% of the graduates completed the questionnaires compared to 54% of the non-graduates

B. The investigator concluded that the non-graduates' lack of interest was due to their having less identification with the college and less involvement with original study.

VI. Obstacles

A. The difficulty in obtaining responses to the mailed questionnaire.

especially from the women who had dropped out of Bennington College who did not feel any loyalty to the college to participate in the study

B. Since nothing was known of the present attitudes and values of the women who failed to complete the questionnaire, the extent of the respondents' bias cannot be determined.

VII. Especially Effective Techniques: not delineated

VIII. Availability of Data: Same as "antecedent study"

Re-study:

I. Design of Study

A four-year re-study of the college environment and kinds of students entering Bennington College was undertaken in the years, 1959-1962.

A. Selection of Sample

1. 110 entering freshmen in 1960

2. 101 students non-randomly selected during 1961-1962

a. 40 students: in 1961, the students were selected by one of the faculty members who was asked to choose those students who would be representative of the various living houses, classes, and majors and who would be willing to be interviewed.

b. 61 students: in 1962, 61 students were selected on the basis of their scores on a set of OPI attitude scales considered to reflect community norms. An effort was made to choose a sample which would include those who showed high as well as low conformity to the dominant norms.

II. Follow-up Design

A. Questionnaires: questionnaires concerning distinctive characteristics of Bennington mailed in Summer, 1960, to 110 entering freshmen before they arrived on campus

B. Several questionnaires administered to "almost the entire student body" in Fall and Spring, 1960, Spring and Summer, 1961. Final questionnaires given in 1962

C. Interviews: interviews held with 101 students during 1961-1962

D. Omnibus Personality Inventory: administered to entire student body in Fall, 1959, and to all entering freshmen in Fall, 1960

B. Adjective check list given to 320 students in Fall of 1959.

III. Response Rates

A. Response rates are not reported for the questionnaire group

B. For the OPI, however, 69 students did not take the second administration. In addition, the sample did not include three students who were initially deviant and who could have completed the second administration of the OPI but did not.

IV. Instrument Administration

A. Questionnaires mailed and completed without supervision

B. No description of characteristics of interviewers or techniques

V. Characteristics of Non-respondents: no information given

VI. Obstacles: Not discussed

VII. Especially Effective Procedures:

A. Involvement and support of school

B. Appeal of loyalty to school

C. Personal contact of project staff

VIII. Availability of Data

A. Same as "antecedent study"

B. Location of data cards and code books not given

Super, D. E., et al. Floundering and Trial After High School, Career Pattern Study: Monograph IV

I. Study Design

A. Preliminary phase

1. Selection of Sample

a. First contact included all students enrolled in the 9th grade in 1951-52 and all students enrolled in the 8th grade that same year and who entered the 9th grade the following fall.

b. All subsequent contacts attempted to include all living subjects.

B. Longitudinal study spanning a ten-year period starting in high school and extending to age 25.

C. Follow-up design

1. Contacts:

First contact, 1951-1952 (age 14-15)

a. Two days of questionnaires and tests administered during the activities period at the beginning of the school day

b. Four school periods of semi-structured and tape-recorded interviews with each boy

c. An hour-long semi-structured, tape recorded interview with one or both of each boy's parents

(An occupational survey was also made of the town.)

First follow-up, Spring, 1955-56 (age 17-18)

a. Two full school days of test batteries and questionnaires

b. One school period of interviewing

c. Field visits to dropouts and administration of an abbreviated test battery and interview where possible

d. Questionnaires mailed to parents

Second follow-up, Spring, 1958-1959 (age 20-21)
Mailed questionnaire (70 pages in topical sections), in order to bring the educational, employment, military, and personal histories up to date.

Third follow-up, Spring, 1962 - 1963 (age 24-25)

a. Personally administered questionnaire battery and coordinated interview and test. Conducted in "Middletown" one day and also in New York City.

b. Reports obtained from educational institutions, employers, and armed forces.

2. Procedures

First follow-up: 1955

a. Preparatory activity consisted of discussions with community leaders, members of the local advisory council, and with Middletown school officials all of whom gave full support as they had done three years earlier.

b. A letter went to all subjects in January, 1955, describing the nature of the coming contacts and asking them for their cooperation.

c. 106 boys were still in attendance at the high school; one boy had died; 35 were missing. The last known addresses of these boys were obtained from school records and were used in the January mailing.

d. Letters were sent to the principals of high schools in other cities where nine boys had transferred.

e. The local newspaper published a series of three articles about the study, designed to induce dropouts to cooperate.

f. Attempts were made through the local post office to trace boys who had moved, and two qualified local interviewers were enlisted to help in locating and collecting data from missing subjects.

As a result of these efforts, data were collected from 16 more boys. Of the remaining 19 subjects, 10 were in the armed forces and could not be seen due to budget limitations; 7 (3 presumed transfers and 4 dropouts) could not be located; 2 refused to cooperate. Partial data were obtained on all of these subjects from high school records.

Second follow-up: 1958

a. In October, 1957, a first class letter was sent to 140 subjects asking subjects for their current educational and employment status and addresses on an enclosed self-addressed card. 54% (76) completed cards were returned.

b. In November, 1957, a second wave of letters containing

return post cards was sent to non-respondents by certified mail, return receipt requested. An additional 35 cards were received, for a total of 79 percent (111 out of 140).

c. A Middletown school staff member secured the most recent addresses for an additional 12 subjects. The other 17 subjects received their letters but did not reply.

d. In May, 1958, questionnaires, cover letter and $2.00 were sent by certified mail, return receipt requested, to the 140 survivors of the original 9th grade group. 53 percent (74) responded. Of the remaining 66 questionnaires, 7 were returned unclaimed, 2 refused to cooperate, 57 were received by the subjects but not returned.

e. A postcard was sent to the 57 non-respondents and 25 more completed questionnaires were returned making a total of 99 or 71 percent.

f. A third follow-up was sent to 31, consisting of a letter with another copy of the questionnaire. Seven questionnaires were returned for a total of 106 or 76 percent.

g. In October, 1958, the names of 32 of the 34 remaining subjects were turned over to a psychologist associated with the community college in Middletown. He secured recent addresses and made personal contacts to secure cooperation and also contacted friends and relatives of the subjects, former landlords and neighbors at old address. This field follow-up produced 17 more completed questionnaires, for a final total of 123 or 88 percent of the surviving original 9th graders.

Of the remaining 17 subjects, 6 did not want to cooperate, 7 did not refuse but were passive resisters, 4 could not be located.

Third follow-up: 1962

a. Community support was again solicited in Middletown through meetings with the superintendent of schools, the executive vice-president of the chamber of commerce, the president of the local community college, the principal and appropriate staff members of the Senior High School and several randomly selected previously interested subjects. In addition, the local newspaper printed an article about the study in February, 1962, and pictures in April and May.

b. The techniques used in this follow-up included those used in the second follow-up.

II. Response Rates:

Time	Number Sought	Percent Sought	Number Secured	Response Rate
First Contact				
1951-52	142	100	142	100
1952-53	138	100	137	100
First follow-up				
1955	141 (one death)	100	122	86
1956	116*	100	92	79
Second follow-up				
1958	140 (one death)	100	123	88
1959	115 (one death)	100	92	80
Third follow-up				
1962	140		132	94
1963	114		102	89

III. Costs

1. 1957-1958. The questionnaire, cover letter and two one dollar bills were sent by certified mail, return receipt requested, to the 140 of the original 9th grade group. The cover letter included a statement that an additional three dollars would be mailed when the completed questionnaire was returned.

2. 1962. All travel expenses were paid if subjects lived east of the Mississippi River, plus $25.00 to compensate for the day.

*22 of the original eighth graders did not enter the ninth grade in Middletown High School in 1952 and were later dropped from the study.

Non-respondents

	Number	Percent	Reasons
First Contact	0	0	(Routine testing in school)
First follow-up			
1955	19	14%	)in service)lost
1956	24	21%	)dropped out)transferred
Second follow-up			
1958	17	12%	)lost)refusal
1959	23	20%	)failed to cooperate
Third follow-up			
1962	8	7%	)lost)refusal
1963	12	11%	

IV. Instrument Administration

A. Time sequence

1. 1951-52

Two days of questionnaire and test administration
Four school periods of interviews
One hour interview of parents

2. 1955-56

Two days of questionnaire and test administration
One school period of interviewing
Field visits to dropouts; tests and interviews if possible
Questionnaires mailed to parents

3. 1958-59
Mailed questionnaires

4. 1962-63

Questionnaire administered personally; interview and test

reports from educational institutions, employers, etc.

V. Characteristics of non-respondents — not reported

VI. Obstacles

Many potential problems not seen as such by authors. See "effective procedures"

VII. Especially Effective Procedures

A. The bringing to bear of appropriate financial resources and methods, plus perseverence and tact, can insure returns from all but an insignificant number of subjects.

B. Geographic mobility during the years following high school and college - leaving is not substantial and presents no great difficulty in follow-up other than that of causing delay and expense in reaching subjects.

C. Attrition should not be expected or accepted in a longitudinal study, even when the subjects constitute an intellectual or socioeconomic cross-section. On the contrary, the salvaging of many lost and uncooperative cases can be expected with the passage of time. No doubt, however, this possibility is enhanced when only small samples are involved.

VIII. Availability of Data: not reported

Thistlewaite, D. L., Effects of College Upon Student Aspiration

I. Study Design

A. Preliminary phase

1. Selection of sample

a. Population: Originally chosen from 300,000 National Merit Scholarship Qualifying Test examinees, who had scored at a percentile rank of 64 or higher (national norms). These 300,000 were taken from a total of 480,000 students who had taken the test in their junior year (1958). This latter number represented 28% of all 1959 U.S. high school graduates.

2. Sample size

a. Originally, a stratified random sample by state was taken (10% of the 300,000 NMSQT examinees scoring above the 64th percentile in 1959)

b. For the second, 1961 sample, a stratified random sample was taken by college: 140 colleges each having a minimum of 35 or more of the NMSQT examinees who responded to the first survey. Names were stratified by college and a random sample was chosen of 60 names from colleges with more than 60 examinees and all names of the stratum contained between 35 and 60 names. Approximately 42 states were represented in the sample, although the selection of schools by such criteria as enrollment (choice of NMSQT examinees) further limits the type of colleges comprising the sample.

c. The third sample, Fall, 1963, consisted only of respondents who had 1) completed forms for the first two surveys and 2) indicated in June, 1961, that they were progressing through college in the usual manner (not withstanding temporarily or otherwise)

B. Longitudinal design

1. Four year period, Fall, 1959 - Summer, 1961

2. Test-re-test on sample

C. Follow-up Design

1. Questionnaires first mailed to complete population in Fall, 1959

2. Second "wave" of questionnaires mailed to respondents from first "wave" in June, 1961

3. Third mailing in 1963 to respondents of first two surveys.

II. Response Rates

A. Follow-up data on 2,919 respondents (from a designated sample of 4,178) of an original 7,464 students. These 7,464 in turn had been selected from a sample of 30,771

B. Complete data were obtained on 39% of the original sample (2,919)

C. Responses for each wave:

	subjects	respondents
Fall, 1959	30,000	26,771 (90%)
June, 1961	7,464	4,330 (58%)
Fall, 1963	4,148	2,919 (70% of 1961 sample; 39% of 1959 sample)

III. Costs - no information given regarding overall cost, cost per technique, cost per subject, or benefits for subjects

IV. Instrument Administration

A. Time sequence: Fall, 1959
Summer, 1961
Fall, 1963

B. Questionnaires mailed to subjects' homes

V. Characteristics of non-respondents -- no information given

VI. Obstacles

A. Design problems

1. Response bias — Due to the original selection as well as response biases, the final sample was not representative of a cross-section of all American college students. Furthermore, due to the response biases, the final sample was not even representative of the original sample, but increasingly, as each of the surveys were taken, biased toward higher aptitude students.

2. Selection — The author acknowledges that students from high schools which administer the NMSQT test are more likely than students in non-participating schools to a) plan to go to college; b) have parents who encouraged them to do so, and c) take college preparatory courses.

VII. Especially effective procedures - no information

VIII. Availability of Data - no information given

Tillery, D. et al., Project Scope -- School to College: Opportunities for Post-secondary Education

I. Study Design

A. Preliminary phase: 1965

Fall of 1965 employed staff
Established relations with state, districts and schools
Constructed test instruments
Prepared data processing procedures and logistics

1. Selection of sample

a. Population: all 9th and 12th grade students enrolled in spring semester, 1966, in California, Illinois, Massachusetts, and North Carolina

Choice of states based on following criteria:

Had different traditions regarding commitments to public and private higher education

Reflected educational beliefs of major portions of U.S.

Represented leadership in higher education

Had recent master plans for higher education

b. Procedure: multi-state stratified proportional random sampling

Counties were statistically grouped into clusters on basis of:

Median family income

Proportion of white collar workers

Racial composition

Mobility of population

Rate of school attendance of school age children

School size

Ratio of students who attend college to high school graduates

Counties randomly selected from within each cluster

School districts and schools randomly selected from the

county sample

Eight a priori clusters of students selected on statistically defined factors:

high/low "school ability"

high/low family socioeconomic status

high/low educational opportunity

2. Size of sample

9th Grade		12th Grade	
8,204	California	7,757	
14,338	Illinois	10,381	
11,673	Massachusetts	9,793	
21,846	No. Carolina	12,555	
56,061		40,986	TOTAL: 97,047

Used theoretical models to determine that 3,954 students should be available for final data collection

a) Initial sample size took rate of persistence and drop out through each period of school into consideration

b) Considered college-going rate and

c) General rate of persistence in first year of college

Units of sampling:

a) 244 public schools

b) 55 non-public schools

B. Longitudinal setting-up situation

Six year period, test-re-test on same sample

Three major testing periods: Grade 9, 12, and end of 1st yr. of college

1. Cross-national study

Stratified by sex and educational aspiration based on five aspirational levels

a) Leave school as soon as possible

b) Graduate from high school

c) Attend junior college or special technical or vocational school

d) Graduate from four year college

e) Seek post-graduate degree

2. Additional analysis of selected subsamples of students who did and did not attend college

Follow-up Design

1. Procedure for Locating 1966 twelfth graders

a) Those who declared college choice (two choices given)

Rosters of students sent to colleges of choice

Rosters checked by colleges

Student enrolled in college and therefore located or:

Not enrolled at present; identity uncertain

In this case, a card was sent to student's last home address. Card was either returned indicating name of college student was currently attending, or indicating that student was not in college, was working or in the military, or there was no response.

If no response, a card was mailed to the local district junior college and the student was either located at the junior college or was unknown to them. If unknown, the secondary school counselor was contacted for assistance. If a new address for the student was provided, a card was sent to the address and followed through in the same manner as previously. If the secondary school counselor could provide the name of the college attended by the student in question, the appropriate follow-up contact was made. If no information was given, other locating methods were applied (unspecified in abstract).

Students not in college:

Same locating method used as was applied to those whose identity was uncertain.

b) Those who declared they would not attend college

A card was sent to student's home

Student responded with name of college or stated they worked, were in military or at home, or there was no response.

In the case of no response, a card was sent to the local junior college. The student was either enrolled there or, if not, a card was then sent to the secondary school counselor soliciting information. The counselor provided a new address, the name of the college the student was currently attending or had no information. In the instance of the first two possibilities, the appropriate locating methods were then carried out on the basis of the newly acquired information (described above).

c) These various locating methods provided three results:

Student located at college

Student located: not at college

Other locating methods were applied. These methods were not described in the abstract.

2. Follow-up Procedures for locating 1966 ninth graders

a) Students normally proceed from a junior high school to a senior high school in the same district or area. Therefore, rosters were sent to the "normal" flow high school.

b) Rosters checked by high school and returned the following information:

Student located in grade 10

Student located in grade other than 10

Not at that school, but name of school student was enrolled in was provided.

Student not in normal flow and location not known

In this case, information was requested on original junior high school or central office regarding whereabouts of student

Based on this information, roster was sent to appropriate school

If student still not located, request sent to home address for information

As a result, the school was named; the student was located at home, at work or in the military; or there was no response.

c) These several contacts resulted in the student being located in grade 10; located, but not in grade 10; or not

located and other methods were applied (not specified in abstract).

3. After re-locating original sample (by technique described above) questionnaires were administered and the students were again interviewed.

II. Response Rates

A. Response rates for each year ng were not indicated. Final reports submitted after analysis period of the project indicated that two thirds of the senior class responded; no further details noted.

B. Percent increase in response rate as a result of locating technique was not discussed in available material.

III. Cost

Was not discussed in abstract

IV. Instrument Administration

A. Time Sequence

1. 1966 9th graders

1966 - Tested and interviewed

1967 - Interviewed; collected data from school records; brief follow-up questionnaires

1968 - Major testing period (11th grade sample then in 12th grade)

1969 - Tested and interviewed at end of first year in college

2. 1966 12th graders

1966 - Tested and interviewed

1967 - Interviewed at end of first year of college and tested

3. Non-college goers

1966 - Fall - follow-up of dropouts from 9th grade sample
Follow-up of non-college goers

1967 - Summer - follow-up of non-college sample and college dropouts

B. Setting for administration of tests and interviews not discussed

in abstract

5. School counselors, teachers and administrators were involved in the testing of the students, however, their exact roles are not defined in the abstract.

V. Characteristics of non-respondents not explored in abstract

VI. Obstacles

A. Limitations due to sampling

1. Large metropolitan school districts in Massachusetts chose not to participate and were not replaced by other volunteer schools

2. Public school systems under-represented in NH and VT; unsure with respect to characteristics of large urban areas

3. Caution is suggested when making generalizations since some students were away when the testing was done and some students chose not to participate

4. The meaning of the variables changed from year to year and since there was no continuity of the questions, the form of the study constantly changed

First survey used Warner's index for socioeconomic status and final questionnaire used occupational prestige to determine socioeconomic status

VII. Especially effective procedures -- not apparent based on information in abstract

VIII. Availability of Data

Abstract makes no mention of whereabouts of data files or formation of a data bank, etc.

Accessibility not discussed, but presumably available through the Center for Research and Development in Higher Education, University of California, Berkeley.

Trent, J. W. and Medsker, L. L., Beyond High School

I. Study Design

A. Preliminary phase

Pilot study to pre-test instruments
Conferences held with school personnel in order to obtain cooperation
Liason officer chosen to coordinate details of study at each school

1. Selection of sample

a. Communities: 16 communities selected across the nation, primarily in midwest, considered typical of the country at large

Selected for their comparability in demographic and industrial characteristics.

b. Schools: All high school seniors were surveyed in the communities' 37 schools. Private and church related schools were included if they enrolled 10% of the communities high school seniors.

In one metropolitan area a cross-section of schools was selected by the Superintendent of Schools

2. Size of sample: Approximately 10,000 students formed the basic sample

B. Longitudinal: 1959 - 1968

Test-re-test on sample

C. Follow-up design

1. Phase 1. — Sept. 1959 - postage paid post card questionnaire sent to each subject. Accompanied by letter explaining importance and letter from graduate's high school principal urging cooperation

a) After 2 weeks, non-respondents were sent follow-up letter and another post card questionnaire

b) After another 2 weeks a phone call was made to remaining non-respondents

Spring, 1960 — 400 college registrars filled out checklists on each student who entered their college.

2. Phase 2. 1962 and also 1963 (four years after college entrance)

Academic records and transcripts were obtained from 99% of students known to attend college

During the same years 500 subjects were interviewed. Every 20th student from a list of the basic sample was arbitrarily chosen to be an interviewee

5. Information from interviews provided basis for survey instrument administered to entire sample in the spring of 1960

Survey included questionnaire and personality inventory. Letters urging cooperation were sent. Non-respondents were mailed a second set of instruments.

II. Response Rates

A. Phase 1 - first wave -- 45% responded
second wave -- 25% responded

With follow-up telephone call a total of 98% responded

B. Phase 2 - no figures given for each wave; over 90% of student records obtained

C. Final results -- complete longitudinal data collected on 30% of original sample; over 70% of those still in college responded; approximately 40% of those who never attended college responded.

III. Cost -- not discussed

IV. Instrument Administration

A. All students surveyed initially during class time under supervision of their teachers

Students asked to submit names and addresses for follow-up purposes -- 99% did so

B. Follow-up questionnaires sent to students' homes

C. Project staff members interviewed and attempted telephone contacts of non-respondents

V. Characteristics of non-respondents

A. Respondents and non-respondents were compared on variety of personality and demographic data obtained during the original survey.

Differences were nominal except that both college and non-college respondents manifest somewhat higher measured academic aptitude as high school seniors than did their non-responding peers.

VI. Obstacles

In some cases indifferent or skeptical teachers represented obstacles.

VII. Especially effective procedures

A. Brief post card questionnaires obtained much higher response rate than the comprehensive questionnaires which took over an hour to complete

B. Personal phone calls were particularly effective

C. In two communities, orientation of parents and school boards helped

D. Feedback to interview sample greatly enhanced their cooperation.

VIII. Availability of Data

A. Complete data set available through Center for Research and Development in Higher Education, University of California, Berkeley

B. Also available are appropriate and useable code books.

PART III

CLASSIFICATION OF INSTRUMENTS

Just as a well-conceived research study is dependent upon the practical procedures followed in its implementation, so also is it dependent upon the quality of the instrumentation used as the vehicle for its data. Therefore the original intent of the present project was also to evaluate the different measurements and instruments employed by the studies that were analyzed. But, unfortunately, this task was found to represent essentially another project in itself exceeding the resources of the Analytical Review. Some commentary on the efficacy of the instruments was included in Volume III, however. There follows, also, an annotated description and classification of many major instruments and measurements used in the studies, revised from Appendix B of Volume I. Most of both the standardized and especially constructed instruments were judged to be of relatively high quality. Yet, as indicated in Volume II, much greater attention needs to be given to response bias, comparability, validity and application of data resulting from these instruments. This is true especially of survey questionnaires and interviews.

The following is an annotated listing of the instruments used in the studies initially selected for the Analytical Review.

The classificatory categories listed below are defined when they are not self-evident:

I. Physiological Measures

II. Cognitive
- A. Intelligence
- B. Aptitude
- C. Achievement
- D. Other cognitive

III. Non-cognitive
- A. Personality
- B. Values, Goals, Attitudes, Interests, and Aspirations
- C. Activities

IV. School Environment
- A. Behavioral
- B. Perceptual
- C. Demographic
- D. Teacher characteristics

V. Student Background
- A. Affective
- B. Demographic

VI. General Questionnaires and Interviews

Instruments reviewed by two test critics, Anastasi and Buros, are so indicated. The studies in which each instrument was used are abbreviated, as indicated in the following key:

A--Astin, 1963; Astin and Panos, 1969

B--Buchanan, et al., 1970

C--Coleman, et al., 1966

GS--Institute of Human Development: Guidance Study (In progress)

Hil--Hilton, 1971

H--Husen, 1969

K--Katz, et al., 1968

K&M--Kagan and Moss, 1962

L&D--Lehmann and Dressel, 1963

N--Newcomb, 1967

Scope--Tillery, et.al., 1972

S--Super, 1967

T--Shaycoft, 1967

T&H--Trent and Medsker, 1968

Bur.--Buros, O.K. Mental Measurements Yearbook, (Gryphon Press, Highland Park, New Jersey), 1953

Ana.--Anastasi, A., Psychological Testing. (3rd ed.)

I Physiological Measures

Measures of autonomic reactivity--K&M
Presentation of a conflictful situation and the recording of subsequent autonomic reaction was a second procedure designed to measure anxiety and conflict. Changes in heart rate and palmar resistance were made after an announcement that the subject was about to listen to a potentially conflictful tape-recorded monologue and while the subject listened to the monologue. The announcements and monologues dealt with aggression, sexuality, and physical harm. For methodological reasons, a monologue designed to elicit dependency was not used in this procedure.

Physiological--GS
Heart rate
Blood pressure

Motor--GS
Strength-grip-thrust-dexterity

Physical-Medical-Health-GS
Physical Examinations and health history
Anthropometrics
Skeletal Development
Body build pictures
Physical rating scale
Diet summary
Menstrual history

Prenatal and birth summary--GS
Summary of birth and development from mother;
number of pregnancies, confinements and children living, condition of mother
Weight, length, and teeth; daily routine; handicaps to development; therapeutic and preventive measures

II. Cognition

A. Intelligence
The general intellectual level is measured by verbal ability and the ability to handle numerical and other abstract and symbolic relations. The term "intelligence test" customarily refers to heterogeneous tests yielding a single global score such as an IQ.

1. Pre-school
California Preschool Schedule I or II--GS
15 months to 84 months
ten scales: motor skills, block building, drawing, discriminating forms, discriminating spatial relationships, discriminating number and size, language comprehension, language facility, memory, and completions.

Gesell Developmental Schedule designed to measure mental development--K&M.

Merrill-Palmer Infant Test--K&M
Test battery:
1) language tests
2) "all or none tests"
3) form boards and picture tests
4) other tests of motor coordination
ages 24 - 63 months (Bur. 527)

2. Pre-adolescent

Maze Tracing from Kit of Reference Tests for Cognitive Factors--B
Factor SS - spatial scanning
maze tracing speed test
for ages 6 - 16 (Buros 531)

School and College Ability Test (SCAT): Sentence Completion and Synonyms--C
9 test types (*tests used in Coleman)
1. Resourceful Computation
2. Reading Comprehension
*3. Sentence Completion
*4. Analogies
5. Routine Computation
6. Data Sufficiency
7. Vocabulary
8. Mixed Computation
9. Arithmetic Reasoning
Sentence Completion, Gr. 6, 9+ --C
ETS School and College Ability Test series
Measure "developed abilities"
combined with synonyms to give verbal score (Bur. 452)
Synonyms, Gr. 6, 9+ --C
ETS School and College Ability Test series
Combined with sentence completion to give verbal score (Bur. 452)

3. Adolescent and above

Academic Ability Test (AAT)--Till
CAVD Intelligence Test--T&M
Vocabulary Inventory - 20 items (author--Thorndike)
School and College Ability Test (SCAT)--Hil. (see description above)
Conceptual Sorting Tasks--K&M
To evaluate subject's preferred conceptual style. Three major formal categories of responses:
1) analytic-descriptive
2) relational
3) categorical inferential-affect concepts (sub-group) (Ann. 253)

Guilford's Anagrams--B

Hanfmann-Kasanin Concept Formation--K&M
Object Sorting. Student is to classify 22 blocks into 4 groups and state the principle of classification (Ana. 310, Buros 78)

High School Intelligence tests -- T&M

Nonverbal Reasoning - Coleman
National Teacher Examinations, Common Examinations: Nonverbal Reasoning--C (Buros - 700)

Otis IQ Test--K&M
(Buros 481)

Wechsler-Bellevue Intelligence Scale--GS, K&M
Replaced by WAIS (1955)
eleven subtests grouped into two sets of scales:
1) Verbal: information (29 items), comprehension (14 items), Arithmetic (14 problems), similarities (13 items), digit span, vocabulary (40 words)
2) Performance: digit symbol, Picture completion (21 cards), Block design, Picture Arrangement, object assembly
(Ana. 272, Buros 539)

4. All ages
Gates Test of Reading Comprehension--B
Porteus Maze--GS
Series of printed line mazes, steeply graded in difficulty. Ages range from 3 yr. to adult level. Scoring takes into account trial in which the test is successfully completed. Measure of foresight and planning capacity - measures "those aspects of intelligence most important in practical social sufficiency." (Ana. 239, Buros 632)

Primary Mental Abilities--K&M
Five factors: Verbal meaning, number facility, reasoning, perceptual speed, and spatial relations. Five batteries extending from kindergarten to grade 12. Scores on each factor, as well as total scores, expressed as deviation IQ's.
Five batteries extending from kindergarten to grade 12 (Ana. 335)

Quick Test of Intelligence--B
Based on the recognition vocabulary, uses pictorial representation and does not depend on verbalization or reading ability. QT has 3 forms, each having a stimulus plate on which there are four line drawings.
ages 2 and over

Raven's Progressive Matrices--B
Designed to measure Spearman's g or general factor which is common to all intellectual activities. Consists of 60 matrices from each of which a part has been removed. Five series, each with 12 matrices. Earlier series required accuracy of discrimination; the later, analogies, permutation and alteration of pattern, and other logical relations.
Norms from age 8 to 65. (Ana. 247, Buros 490)

Stanford-Binet--K&M, GS
Individual scales requiring highly trained examiner. Material include toy objects for younger age levels; two booklets of printed cards, a record booklet for responses and a test manual. Age levels from 2 to superior adult. (Ana. 189, Buros 536)

B. Aptitude
The term "aptitude test" has been used to refer to measurements of relatively homogeneous and clearly defined segments of ability.

1. Pre-school

2. Pre-adolescent

3. Adolescent and above

Abstract Reasoning--T
This is a non-verbal test of one kind of abstract inductive reasoning ability. The problems require reasoning about diagrams, and do not include any verbal material. Several different types of items measuring ability to do abstract reasoning about diagrammatic material have been widely used. Among these types are figure analogies items, figure sequence items, pattern matrices items, and figure grouping items. The first three of these item types all consist of a pattern or diagram, with one missing portion to be selected from among several options. In the fourth item type, figure grouping, the task is a little different; it is to determine what the principle is which ties several diagrams together, and on the basis of this principle to determine which pattern from among several options belongs with the group of patterns.

College Qualification Test--L&D
Measures general academic aptitude
1. verbal ability scale (75 items)
2. numerical ability scale (75 items)
6 possible scores: verbal, numerical, science info., social studies info., total info. and total for test. (Buros 450, Ana. 252)

Creativity--T
The purpose of this test is to measure the ability to find ingenious solutions to practical problems. There is some evidence that this ability is related to many kinds of creativity. Each item consists of a complex problem similar to one that might be encountered in life. The student is required to think of a clever or ingenious solution. The choices are given in terms of the first and last letters of possible right answers. This is to insure that the student really develops the solution, instead of just selecting it from among five choices.

Disguised Words--T
This test is designed to measure what has been termed "phonetic--orthographic ability--the ability to form connections between letters and sounds. The TALENT Disguised Words Test uses the same type of item as the Spelling Clues Test, with the difference that we made a systematic effort to keep the vocabulary level low by limiting the words spelled to approximately the first 5,000 in the Teacher's Word Book of 30,000 Words, which shows the order of frequency with which words are used in written English. We imposed this restriction to reduce to a minimum the extent to which the test measures vocabulary, since our battery already included a separate vocabulary scale in the Information Test."

General Aptitude Test Battery: Numerical Ability and Verbal Ability--B
12 tests - 9 factors
factors: (*tests used in Buchman)
1) Intelligence (Vocabulary - Arith. Reasoning + three dimensional thinking)
*2) Verbal Aptitude (vocabulary)
*3) Numerical Aptitude (Computation + Arith. Reasoning)
4) Spatial Aptitude (three dimensional space)
5) Form perception (match drawings of tools, match geometric forms)
6) Clerical perception (match names)
7) Motor coordination (paper & pencil test)
8) Finger dexterity (2 tests - assembling and disassembling)
9) Manual dexterity (2 tests - transfer and reverse pegs in a board)
(Ana. 343)
General Aptitude Test Battery - Numerical Ability--B
GATB - 12 tests, 9 factors
Numerical aptitude - includes both computation and arithmetic Reason tests. (Buros 771, Ana. 343)
GATB - Verbal Ability--B
Verbal aptitude - measured by a vocabulary test requiring examinee to indicate which two words in each set have either the same or opposite meaning. (Ana. 343)

Mechanical Reasoning--T
The purpose of this test is to measure ability to visualize the effects of everyday physical forces and principles (for example, gravitation, pressure, equilibrium) and the operation of basic kinds of mechanisms (for example, gears, pulleys, wheels, springs, levers). Tests of this sort have sometimes been called measures of "barnyard physics." The ability measured is related to mechanical aptitude. The TALENT Mechanical Reasoning Test uses about the same type of items used in Bennett's Mechanical Comprehension Tests. Each item consists of a drawing, with a multiple choice question on how the objects pictured behave. Getting a good score on this test calls for visualization, reasoning, and "intuitive" understanding based on past observation of common mechanical forces at work. Every item can be answered without training in physics, and without

experience in woodworking or other crafts, or in working with motors. Nor is knowledge of tools or of electricity measured. Nevertheless, the student's past training and experience should be borne in mind in interpreting the results. A course in physics may make many of the items easier. The fact that girls on the average, score considerably lower than boys is consistent with the hypothesis that training, experience, and other environmental factors play a role in the development of mechanical reasoning. However, this does not render the test any less useful as a predictor of success in mechanical jobs.

Memory for Sentences--T

The TALENT Test for memory for sentences consists of 40 short sentences. The students were given six minutes to memorize them. The test items consist of some of these sentences, in a different order, with one word omitted from each sentence. The task is to recall the missing word and identify its second letter, which is one of five options. Each option consists of only one letter, instead of an entire word, in order to test the ability to recall the missing word, rather than merely the ability to recognize the word when it is presented. The second letter is used instead of the first in order to minimize the extent to which the letter itself will help the person recall the missing word if he has forgotten it.

Memory for Words--T

The purpose of this test is to measure another kind of rote memory--the ability to memorize "foreign" words corresponding to common English words. This ability is directly relevant to learning a foreign language, and presumably related to ability to learn many other kinds of material. The TALENT Memory for Words Test is modeled directly on Test 5 (Paired Associates) of the Psi-Lambda Foreign Language Aptitude Battery. In this test the student is given two minutes to study 24 common English words and their alleged equivalents in a totally unfamiliar language. To insure that the language would be unfamiliar to all, a language named Vlaznoor was invented especially for use in the TALENT test. The two-minute study period is followed by a two-minute practice period in which the students practice recall, using a list of the Vlaznoor words. Ability to select the English equivalent of a given foreign (Vlaznoor) word from among five options is then tested. Each Vlaznoor word is a separate item and is presented in a different order from that used in the learning and practice materials. Almost all options are English words used in the vocabulary studies, although an occasional English word not in the vocabulary studies may be used as a distractor--for example, "in," when "on" is the right answer.

Object Inspection--T

The purpose of this test is to measure speed and accuracy of perception of form. More specifically, it is intended to measure the ability to note differences in small objects quickly and accurately when comparing them visually. In the TALENT Object Inspection Test, each problem consists of pictures of five small objects, four of which are supposed to be identical. The remaining one is slightly different. The task is to pick out the picture that is different.

The Preferences Test--T
One purpose of this test--frankly an experimental one--is to measure the speed with which a person can reach a decision. The test is based on a Social Judgments Test developed by the Educational Testing Service. Each test item consists of a pair of adjectives describing a person. The student is required to select the adjective from each pair that he would prefer to have applicable to his friends. The two characteristics are intended to be about equal in social acceptability.

Reading Comprehension--T
The purpose of the test is to measure ability to comprehend written materials. The most common of the numerous types of standardized reading tests used over the last 40 years consists of passages to be read with each passage followed by several multiple-choice questions testing comprehension. This is the type that was chosen for the TALENT battery. In answering the questions the student is permitted to refer back to the passage as often as he likes.

Test of Critical Thinking, form G--L&D
52 objective items measure:
1. defining a problem
2. recognizing stated and unstated assumptions
3. selecting pertinent information
4. formulating and selecting relevant hypotheses
5. drawing valid conclusions
reliable measure of critical thinking process

Visualization in Two Dimensions, Three Dimensions--T
The purpose of these two tests is to measure spatial visualization--the ability to visualize how an object, pattern or configuration would appear when viewed from various angles in various positions. Visualization in Two Dimensions. One kind of test measuring two-dimensional visualization is a test of the ability to distinguish between figures that have been rotated on a flat surface and figures that have been manipulated in another way--specifically, non-symmetrical figures that have been turned over to produce mirror images. Visualization in Three Dimensions. Among the many kinds of tests measuring three-dimensional visualization are tests measuring the ability to visualize

1) how a two-dimensional figure would look after it had been folded to make a three-dimensional figure;
2) how a three-dimensional figure would look after it had been unfolded or flattened out (sometimes called surface development);
3) the rotation of solid figures, such as cubes;
4) solid figures on the basis of top, front, and side projections;
5) hidden parts of solid structures (as in a "block-counting test," where the task might be to determine how many cubical blocks there are in an irregularly shaped structure, not all of which is visible).

C. Achievement

Achievement tests have a greater degree of specificity of content than do aptitude tests; they presuppose a designated course of prior instruction.

1. Pre-school

2. Pre-adolescent

Inter-American Tests of Generability: Association, Classification, and Picture Vocabulary--C
Tests of General Ability-Inter-American Series five levels of difficulty. Published in English and Spanish in parallel editions. Scales vary with level. Association, Gr. 1--C. Inter-American Tests of General ability. Each exercise presents a group of drawings. Child looks for drawing which is associated in some way with the first drawing. (Buros 507). Classification, Gr. 1&3--C Inter-American Tests of General Ability. Non-verbal. Each exercise presents a group of drawings. Child looks for drawing which is different from the others in the group. (Buros 507). Picture Vocabulary, Gr. 1&3--C. Inter-American Tests of General Ability. Index of language ability. Child is asked to identify drawings corresponding to words and expressions which the examiner dictates. (Buros 507)

Mathematics Test--H
Organization of tests by topics: basic arithmetic, advanced arithmetic, elementary algebra, intermed algebra, Euclidian geometry, analytical geometry, sets, trig and circular functions, analysis, calculus, probability, logic, affine geometry. (H 105)

Secondary Reading Test, part 2--H
NFER (National Foundation for Educational Research)

3. Adolescent and above

Arithmetic computation--T
The purpose of the test is to measure speed and accuracy of computation. The test is limited to the four basic operations (addition, subtraction, multiplication, and division), and to whole numbers. The TALENT Arithmetic Computation Test includes operations with single-digit and multi-digit numbers. The operations tested are limited to relatively simple ones. Computation of square roots is not tested, nor is computation involving decimals, fractions, or percents.

Clerical Checking--T
This test is designed to measure speed and accuracy of perception in a very simple clerical task involving working with pairs of names to determine whether they are identical.

The TALENT Clerical Checking Test consists of pairs of names. The task is to compare the two names and mark S if they are exactly the same and D if they are different.

English--T
The purpose of this test is to measure ability to express oneself adequately in English. It has five separately scored parts:

1. Spelling
2. Capitalization
3. Punctuation
4. English Usage
5. Effective Expression

It also yields a total score, which indicates overall achievement in various aspects of English expression measurable by objective test items.

French Insight Test--K&M
Test for achievement and affiliative preoccupations. (KM-37)

General Information--C
ETS test items.

Information Test, part I & II--T
Content of Information Test

Part I of Test
1. Screening (of illiterates and others)
2. Vocabulary
3. Literature
4. Music
5. Social Studies
6. Mathematics
7. Physical Science
8. Biological Science
9. Scientific Aptitude
10. Aeronautics and Space
11. Electricity and Electronics
12. Mechanics
    A. Tools, construction
    B. Motors and mechanisms
13. Farming
    A. Farm
    B. Ranch
14. Home Economics
    A. Cooking
    B. Other
15. Sports

Part II of Test
16. Art
17. Law
18. Medicine

19. Engineering
20. Architecture
21. Journalism
22. Foreign Travel
23. Military
24. Accounting, business, sales
25. Practical knowledge
26. Clerical
27. Bible
28. Colors
29. Etiquette
30. Hunting
31. Fishing
32. Outdoor activities (other)
33. Photography
34. Games (sedentary)
35. Theater
36. Ballet
37. Foods
38. Miscellaneous

Mathematics I, Arithmetic Reasoning--T
The aim of the TALENT test is solely to determine whether the student can do the reasoning part of a problem--not whether he will do the subsequent computation carefully enough to avoid careless errors, nor whether he knows number combinations.

Mathematics II, Introductory High School Math and Mathematics III, Advanced High school Math--T
The purpose of these two subtests is to measure achievement in mathematics taught in high school (or earlier). The items are intended to test understanding of basic concepts and methods, rather than rote memory. Little emphasis is placed on facts and definitions since this domain is covered in the Mathematics scale of the Information Test. In Mathematics Part II (Introductory), the emphasis is on ninth-grade elementary algebra, but other areas tested included fractions, decimals, percents, intuitive geometry, elementary measurement formulas, and square root. Algebra is involved in over 60 percent of the items. Computation is kept to a minimum. In Mathematics Part III (Advanced), the items sample a wide range of concepts not usually studied until Grade 10 or later. Among the areas included are plane geometry, solid geometry, algebra (quadratic equations and beyond), trigonometry, elements of analytic geometry, and introductory calculus.

Michigan State University English Test--L&D

Michigan State University Reading Test--L&D
45 item test. Measures subject's ability to comprehend thoughts expressed in reading passages.

National Merit Scholarship Qualifying Test--HS, C
Test for the selection of highly talented students for ... Scholarship Awards. Assesses English usage, social studies reading, natural sciences reading, word usage. (Area 1E, Buros '59)

National Teacher Examinations, Common Examinations: English; Professional Information; Science and Mathematics; Social Studies; Literature and Fine Arts--C

Table Reading--T
The purpose of this test is to measure speed and accuracy of perception in a clerical task which involves obtaining information from tables. The Table Reading test consists of a table with instructions on how to use it, together with a number of multiple choice items that have to be answered by reading the table. The time allowed is very brief to insure that no one has time to finish.

Word Functions in Sentences--T
This test is intended to measure the student's sensitivity to grammatical structure, whether or not he has had instruction in the rules of grammar. The TALENT Word Functions in Sentences Test uses the same type of item as the Words in Sentences Test (Test 4 of the Carroll-Sapon Fst-Lambda Battery) mentioned above. Each item consists of a "key sentence," followed by one or more other sentences. One word or phrase in the key sentence is printed in capital letters. The task is to determine which of five underlined words or phrases in the following sentence or sentences performs the same function in its sentence as the capitalized word or phrase performs in its sentence.

4. All ages

Inter-American Tests of General Ability:

Analogies, Gr. 3, 6, 9+--C
Inter-American Tests of General Ability. Finding a fourth drawing to make a second pair of drawings like the first pair. (Buros 507)

Sequential Tests of Educational Progress: Mathematics and Reading--C; also Writing, Listening, Social Studies and Science--Hil
The Sequential Tests of Educational Progress (STEP) are a special kind of achievement-test series--a series growing out of the demands of educators for instruments measuring the broad outcomes of general education, rather than the relatively narrow results of any specific subject-matter course. STEP focuses on skill in solving new problems on the basis of information learned, rather than on ability to handle only "lesson material." STEP provides for continuous measurement of skills over nearly all of the years of general education, so that the cumulative effects of instruction can be ascertained. Most important, the series was built on

the assumption that the primary goal of the whole educational process is the development of the individual student. The tests are long enough and broad enough to provide data for sound individual interpretation. STEP includes tests in the seven major fields of school and college instruction: Reading, Writing, Listening, Essay, Social Studies, Mathematics, and Science. (Buros 25)

Reading, Gr. 3, 6, 9+--C
ETS Sequential Tests of Educational Progress. 70 minutes.
Short passages from a variety of content areas are followed by questions designed to test such skills as simple comprehension, interpretation, insight into the writer's motives, and critical evaluation. Measures ability to understand direct statements, to interpret and summarize passages, to see motives of authors, to observe organization of ideas, and to criticize passages with respect to ideas and purposes of presentation. Passages were selected to represent the major types of material which students are called upon to read: directions and announcements, articles of information or explanation, letters, stories, poetry, articles of opinion or interpretation, and plays.

Mathematics, Gr. 3, 6, 9+--C
ETS Sequential Tests of Educational Progress.
Multiple-Choice test, 70 minutes.
Heavy loading on verbal comprehension in presentation of problems. Measures mastery of the following broad mathematical concepts: number and operation, symbolism, measurement and geometry, function and relation, deduction and inference, and probability and statistics. Each level of the test deals with those concepts which mathematics educators feel should be mastered by students at that level. (Buros 590, Ana 397)

D. Other cognitive

1. Pre-school

Gesell Development Schedule--K&M
Behavior development in four major areas:
1) motor behavior
2) adaptive behavior
3) language behavior
4) personal-social behavior
most items purely observational, supplemented by information from mother. Age 4 weeks to 6 years. (Ana p. 255) Buros 522)

2. Pre-Adolescent

Healy Picture Completion II--GS
Picture completion - performance test (Ana 237)

3. Adolescent and above

Anagrams--B
Measure of divergent thinking by a verbal task

4. All ages

French's Hidden Patterns--B
Indicator of cognitive style, of field independence-dependence. One of a group of measures labeled with factor name "Flexibility of Closure." Grades 5-16. (Buros 551)

Gray's Oral--GS
Assesses oral reading skill and diagnoses reading difficulties. Questions in comprehension of literal meaning of reading selections/passages. Norms - grades 1-12. (Buros 842)

III. Non-cognitive

A. Personality

Personality tests are generally concerned with the affective or nonintellectual aspects of behavior. Such characteristics as emotional adjustment, interpersonal relations, motivation and style are included in this category.

1. Projective

The chief distinguishing feature of projective techniques is in their assignment of a relatively unstructured task--an almost unlimited variety of possible responses is permitted. The underlying hypothesis is that the way in which the individual perceives and interprets the test material will reflect fundamental aspects of his personality.

Rorschach inkblots--GS, K&M
10 cards on each of which is printed a bi-laterally symmetrical inkblot. Five of the blots are in grey and black only; two contain additional touches of bright red, remaining three combine several pastel shades. Examinee is shown each inkblot, asked to tell what he sees--what blot represents. Most common scoring categories: location, determinants and content. (Ana. 495, Bur. 237)

Thematic Apperception Test--GS, K&M
Presents more highly structured stimuli than inkblot and requires more complex and meaningfully organized verbal responses. 19 cards containing vague pictures in black and white and one blank card. Examinee is asked to make up a story to fit each picture, telling what led up to the event shown in the picture, describing what is happening at the moment, what the characters are feeling and thinking, and giving the outcome. For blank card, asked to imagine some picture, describe it and tell story about it. Modes of content analysis--
a) force or forces emanating from the hero
b) force or forces emanating from the environment
(Ana. 499, Bur. 245)

Tachistoscopic recognition task--K&M
At this point in the schedule each subject was taken into a light-proof room and dark-adapted for several minutes. He was then shown a series of 14 line drawings of people in various situations. The pictures were presented at seven different exposure speeds ranging from 0.01 to 1.0 seconds. The 14 stimuli contained 4 aggressive scenes, 3 dependency scenes, 2 romantic scenes, 2 physical harm pictures, and 3 motivationally neutral situations.

2. Self-report inventories

Pencil-and-paper, self-report questionnaires suitable for group administration

Anti-Semetic Questionnaire--GS
Authoritarian Personality, Adorno

California Psychological Inventory--A, K
About half items from MMPI developed specifically for use with normal populations from age 13 up. 480 items to be answered true-false 18 scales: (3 validity scales to assess test-taking attitudes-sense of well-being, good impression, communality) 6 measures of poise, ascendancy and self assurance-dominance, capacity for stress, sociability, social pressure, self-acceptance, sense of well-being. 6 measures of socialization, maturity and responsibility--responsibility, socialization, self-control, tolerance, good impression, communality. 3 measures of achievement potential intellectual efficiency--Achievement via conformance, Achievement via independence, intellectual efficiency. 3 measures of intellectual and interest modes--psychological-mindedness, flexibility, femininity reported in terms of standard score scale with mean of 50 and SD of 10.
(Ana. 447, Katz 196, Bur. 71)

Edwards Personal Preference Schedule, adaptation--Til
Gough's Adjective Check List, adaptation--Til

Interest Inventory--T
Traits Measured
1. Sociability
2. Social Sensitivity
3. Impulsiveness
4. Vigor
5. Calmness
6. Tidiness
7. Culture
8. Leadership
9. Self-Confidence
10. Mature Personality

Minnesota Multiphasic Inventory--K&M
550 Affirmative statements--True, False, cannot say responses. Designed for adults, age 16 upward. 10 clinical scales: Hypercondriasis, depression, hysteria, phychopathic deviate, masculinity-femininity, paranoia, psychasthenia, schizophrenia, hypomania, social introversion. 4 so-called validity scales: Question score, lie score, validity score, correction score. Individual form - 550 cards plus sorting guide Group form - test booklet plus answer sheet
(Ana. 441, KM-12, 80, Bur. 143)

Omnibus Personality Inventory--K, H, T&M; adaptation--Til
Constructed to assess selected attitudes, values, and interests, chiefly relevant in the areas of normal ego-functioning and intellectual activity. 14 scales: Thinking introversion, Theoretical Orientation, Estheticism, Complexity, Autonomy, Religious Orientation, Social Extroversion, Impulse Expression, Personal Integration Anxiety Level, Altruism, Practical Outlook, Masculinity-Femininity, Response Bias. (Buros 150, OPI manual [f])

Rokeach's Dogmatism Scale--L&D
40 statements to which subjects are asked to agree or disagree along a 6-point continuum. No neutral position. Measure of general authoritarianism. Scores range from 0-280. High scores-dogmatic and unreceptive to new ideas. Not influenced to a great extent by general academic aptitude.

Self-rating Inventory--K&M
110 items by authors dealing with motives, attitudes, and overt behaviors related to dependency, aggression, physical harm, sexuality, compulsivity, recognition, and relations to peers.

"Things you talk about"--GS

Wesley's Rigidity Scale--L&D
51 items chosen empirically and rated for degrees of rigidity. High score indicates personality rigidity

3. Report by others
"Guess who" ratings--N
Personality characteristics of Bennington Students "Each question begins with the word "most" or least," followed by 3 blank spaces for each of the three classes (1938, 39, 40). You are asked to write in the names of 3 individuals in each class who seem to you best to illustrate the characteristic mentioned..." 28 guess who items

Reputation Test (classmates)--GS
Modification of "Guess who" technique to find out what the child's playmates think of him in certain respects and also how he judges them.

B. Educational and Occupational Goals and Aspirations

College Objectives Test--L&D
24 objectives or values (10 vocational-oriented and 16 general education or non-vocational in orientation) to which subject indicates one of three degrees of importance. Two scores can be obtained: value subject attaches to the vocationally-oriented objects of higher education and to liberal or general education aspects.
General academic and vocational attitudes, activities and interests--B, Hil. T. Til. TAM

C. Values, Attitudes, and Interests

1. Educational

Attitudes about the difficulites of learning math--N

Attitudes toward math as a process--N

Attitudes toward school and school learning--N

Attitudes toward the place of math in society--N

Themes: "What High School Means to Me" and "Help received from testing and counseling"--T
The two five-minute themes were included in the battery for three reasons:

1. To provide some insight into the student's values, attitudes, personality, motivations, and plans.
2. To provide a sample of the ability of the student to write coherent and correct English--free of mechanical errors (spelling, punctuation, grammar, etc.), well expressed, and logically organized. It is fully recognized, however, that themes as brief as these for which only five minutes were allowed, provide an inadequate basis for evaluating the student's ability to produce a well organized composition.
3. To provide samples of the student's handwriting.

2. Occupational

Interest Inventory: Part I (Occupations) and Part II (Activities)--T
Task was to indicate degree of interest for each of 122 occupations (from bookkeeper to President) scale:

A. I would like this very much
B. I would like this fairly well
C. Indifferent or don't know much about it
D. I would dislike this a little
E. I would dislike this very much

Asked to indicate degrees of interest in each of 82 activities--fishing, operating a power engine, buying stock, or hiring and firing people, campaigning for office, etc.

Hamburger revision of the Occupational Rating Scale in Warner's Index of Status Characteristics, designed to measure parental occupational level, house value, level of subject's first vocational preference, and agreement between level of aspiration and expectation-S

Kuder Preference Record--X&M, GS
Its major purpose was to indicate relative interest in a small number of broad areas, rather than in specific occupations. The items in the Kuder-Vocational are of the forced-choice triad type. For each of three activities listed, the respondent indicates which he would like most and which he would like least. The test provides 10 interest scales plus a Verification scale for detecting carelessness, misunderstanding, and the choice of socially desirable but unlikely answers. The interest sclaes include: Outdoor (agricultural, naturalistic), Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service, and Clerical.

Occupational Interests--GS

Theme: "My Views About An Ideal Occupation"--T

Vocational Maturity Indices (also SVIB)--S

Willingham's Bi-Factor Interest Screen--Til

3. Other values, attitudes and interests

Agree-Disagree
Political values opinion, 9 items

Allport-Vernon-Lindzey Study of Values--L&D
45 items measuring values used on Spranger's types of man, specifying 6 types. Forced choice technique. This Inventory was designed to measure the relative strength of six basic interests, motives, or evaluative attitudes, as described below:

Theoretical: Characterized by a dominant interest in the discovery of truth and by an empirical, critical, rational, "intellectual" approach.

Economic: Emphasizing useful and practical values; conforming closely to the prevailing stereotype of the "average American businessman."

Aesthetic: Placing the highest value on form and harmony; judging and enjoying each unique experience from the standpoint of its grace, symmetry, or fitness.

Social: Originally defined as love of people, this category has been more narrowly limited in later revisions of the test to cover only altruism and philanthropy.

Political: Primarily interested in personal power, influence, and renown; not necessarily limited to the field of politics.

Religious: Mystical, concerned with the unity of all experience, and seeking to comprehend the cosmos as a whole. (Ann 483)

Attitudes toward Drinking--K
Experimental, 54 item scale by Levin and Jones (Katz 354)

Attitudes toward man and his environment--K

Inventory of Beliefs, Form I--L&D, A
Measures stereotypic beliefs, 120 pseudo-rational cliches into 4-element key responses. Explores tendency toward: ethnocentrism, ideocentrism, sociocentrism, egocentrism. Low scores tend to accept stereotypes and are dependent and rigid in their attitudes and values. High scorers-more mature viewpoints, adaptable attitudes and beliefs. (L&D 21)

Political Economic Progressivism--Newcomb
Likert-type attitude scale, 26 items. Statements about contemporary (1938) public issues, SA, A, ?, D, SD.

Prince's Differential Values Inventory--L&D
Measures value orientation of 4 "emergent" values: sociability, relativism, present time orientation, and 4 "traditional" values: Puritan morality, future-time orientation, individualism, and work-success ethic. 64 pairs of forced-choice traditional-emergent value statements

Strassburger Scales I and II (Attitudes toward alcohol and their relation to personality variables)--K
Scale I - measuring favorableness of attitude toward social drinking (10 items). Scale II - tolerance or enlightenment of view with respect to "alcoholism and the alcoholic" (10 items).

D. Activities

Student Activities Inventory--T
18 traits: leadership, vigor, productivity, tidiness, sociability, self-confidence, cheerfulness, culture, talkativeness, impulsiveness, persistence, calmness, social adjustment, theoreticality, responsibility, group-centeredness, conventionalism.
School Activities Questionnaire--S
Out-of-school Activities Questionnaire--S

IV. School Environment

Environmental measures look at the atmosphere, the style of life, and the general institutional context, within which student learning, growth, and development take place. Organizational structure policies, procedures, and demographic aspects are included.

A. Behavioral

Self-reported activities and behaviors of students as a measure of institutional environment

Environmental Assessment--A
The Environmental Assessment Technique (EAT; Astin & Holland, 1961; Astin, 1963b) is based on the assumption that the characteristics of the college environment are largely dependent on the characteristics of the student body. EAT includes eight measures: the size of the student body, the ability level of the student body and six "personal orientations" based on the percentages of students at the college majoring in each of six general fields of study (Realistic, Intellectual, Social, Conventional, Enterprising and Artistic). (Astin, 1963)

Inventory of College Activities--A
The principal purpose of this 1962 questionnaire, called the Inventory of College Activities (ICA), was to identify and measure some of the important differences among college environments. This study attempted to view the college environment as an array of potential "stimuli." A stimulus was defined as any behavior, event, or other observable characteristic of the institution which is potentially capable of changing the student's sensory input and whose existence or occurrence can be confirmed by independent observation. The questionnaire included a list of 250 such stimuli covering four different areas: the peer environment, the classroom environment, the administrative environment, and the physical environment.

B. Perceptual

Characterization of the institution based on the collective perceptions of students.

College Press Scales--Th
14 scales:

1) faculty press of Affiliation
2) faculty press for Directiveness
3) faculty press for Enthusiasm
4) faculty press for Achievement
5) faculty press for Compliance
6) faculty press for Supportiveness
7) faculty press for Humanism
8) faculty press for Independence
9) faculty press for Vocationalism
10) student press for Competition
11) student press for Estheticism
12) student press for Reflectiveness
13) student press for Social conformity
14) student press for Intellectualism

Description of Mathematics Teaching and Learning Scale--H

Description of School and School Learning Scale--H

Per Cent Estimater Questionnaire--N
How well can estimate how Bennington College students and faculty feel about a few contemporary problems. Also asked for own responses.

C. Demographic

School Questionnaire--H
For each school, a school administrator or headmaster was to supply certain basic information about the type of school, the practices of the school, its personnel (especially mathematics teachers), and its financial situation.

High School Information--C, Hil, S, Scope, T, T&M
Spring 1959 information from high school principals. Demographic data on : enrollment, control, personnel, curricular programs, organization, community, and financial situation.

D. Teacher Characteristics

Self-reported information about the experience, training, and views of faculty.

Teacher Questionnaire--H
Teachers of students tested in the schools were to answer a questionnaire designed to secure information about their experience, training, and views. As part of this questionnaire the same teachers were asked to rate the opportunity their students would have had to learn the types of mathematical competence tested by the mathematics tests.
Teacher Questionnaire--C,T

V. Student Background

A. Affective

Familial and peer influences on values, attitudes and interests of students--most studies

Changing Parental Practices Due to Discussion--GS

Difference of Opinion, Parent & Child--GS

Fels Parent Behavior Rating Scale--K&M

Ratings: Characteristics of Mother--GS

Significant Home and Family Data--GS

B. Demographic

Measures of economic, social, educational, religious, occupational and ethnic characteristics of students' familial and peer background--most studies

Socioeconomic Index--T, B,S

Socio-economic Status--GS

VI. General questionnaires or interviews (to be integrated into the above)

Follow-up Criterion Measure--A
In the follow-up questionnaire the students were asked to indicate the highest degree which they were seeking (MA, PhD, etc.). Since most previous studies of college effects had used attainment of the PhD as the dependent variable, the student's highest degree sought after 4 years of college was dichotomized (PhD versus non-PhD), to make the results more comparable. All other degrees, including the professional degrees, were considered as "non-PhDs." It was also felt that dichotomizing the student's level of aspiration (LOA) in this manner would avoid some of the logical problems connected with scaling or rank ordering the various degrees (Astin, 1962b).

Follow-up Questionnaire--A

Freshman Information form--A

Freshman Input Variables--A
The following input variables:

1. LOA (highest degree sought) in 1957
2. Sex
3. Major field of study in 1957
4. Career choice in 1957
5. Degree of satisfaction with career choice in 1957 (dichotomized as "very satisfied" versus all other degrees of satisfaction).
6. Verbal Aptitude (Scholarship Qualifying Test)
7. Mathematical Aptitude (Scholarship Qualifying Test)
8. High school percentile rank
9. High school curriculum (academic, commerical, etc.)
10. Number of high school math courses taken
11. Number of scholarships applied for in 1957
12. Number of scholarship offers received in 1957
13. Distance from home to college
14. Commuter versus resident in 1957
15. Father's educational level
16. Mother's educational level
17. Father's attitude toward student's attending college (four-point scale: "Insists that I go," "Wants me to go," "Indifferent," "Doesn't want me to go")
18. Mother's attitude toward student's attending college (same as Number 17)
19. Number of books in the home
20. Percentage of high school peers attending college
21. Father's occupation

Interview--B
Organization of Interview

Section
A. Peer relationships
B. Self-concept of school ability
C. General happiness
D. Projective measure of motives
E. Job history and financial status
F. Future plans, interpersonal influence
G. Person-environment fit, self-identity dimensions
H. Dropping out and reasons for doing so
I. Demographic information
J. Paragraph comprehension test (oral)
K. Quick test (QT) of intelligence
L. Post-interview information

Job Information test--B
Measure knowledge about wide variety of occupations. Questions concerned with what it is like to be in an occupation (income, status, working hours) and also with the requirements for entering an occupation (eg. ability). 25 items

Questionnaire--E
Organization of Questionnaire

Part A Affective states
- Self esteem
- Stability of self esteem
- Depression, resentment, guilt
- Sadness, anomie, independence-dependence
- Impulse to aggression social support, life satisfaction

Personality dimensions
- Self-development and self-utilization
- Need for social approval
- Fear of failure; test anxiety scale
- Flexibility

Part B School opinions
- School influence description
- Attitudes toward teachers
- Attitudes toward school
- Probability of dropping out of school
- Deviant behavior in school

Part C Values and attitudes
- Cultural values
- Job attitudes
- Rotter internal vs. external control scale
- Political attitudes and information

Part D Life outside of school
- Social and dating behaviors
- Family relationships
- Physical health and appearance
- Political and religious preferences
- Socio-economic status
- Mathis Environmental Participation Index (EPI)

Part E Delinquent behaviors

National Information--K
"In each country, designated individuals were to be asked to supply a broad range of information in the form of national case studies."

Student Questionnaire--K
Each student tested was to answer a questionnaire designed to secure certain personal information as well as some indications of his interests and plans as to his future educational and vocational career.

Adult Interview--K&M

Interview with child--K&M

Observation--K&M

Interview with mother--K&M

Interview--K
Interviews aimed at obtaining student responses to (1) teachers and courses, (2) peers, (3) parents, (4) and the various campus living groups and other formal and informal organizations. In addition, each interview centered on one area specifically: Interview 1--transition from home and high school to college; Int. 2--parents and upbringing at home; Int. 3--the use of the summer; Int. 4--student's moral, religious and political values; Int. 5--academic experience, courses and teachers; Int. 6--peer relations and sexual development; Int. 7--self-concept and perception of change in one's self; Int. 8--final assessment of the college years and the special experience of being interviewed.

Senior Questionnaire--K
19 page
areas covered:
academic life; choice of career; extracurricular activities; relationships with peers, and friendships; sexual development, anticipation of marriage and spouse; relationships with parents; and perception of self, change and development.

Experience Inventory I--L&D
50-item scale indicating the nature and extent of student involvement or immersion in the campus environment. In addition to the general immersion score (0-32), there is a Social Experience score, an Academic Experience score, and an Interpersonal Interaction score.

Experience Inventory II--L&D
263-items inventory including: reactions to the objectives of college, appraisal of the effectiveness of the student's college experiences, his views on a variety of current issues, indication of the degree of change in his personal and interpersonal views, his attitudes, his values. No total score and no scoring procedure.

Interview Schedules--L&D

Behavior and Personality Interviews with Mother--GS

Behavior and Personality Interviews with Subject--GS

Behavior and Personality Interviews with Teachers--GS

Interview--N
Interests and activities since graduation; interest, activity and attitudes in the area of public affairs and political events; Bennington--satisfaction with education, kept in touch with peers, etc.; ranking of

six interests in life--theoretical, economic, esthetic, social, political, religious; 45 general opinion for comparison purposes.

Mailed Questionnaire, May 1961--N
Included: activities since graduation, political preferences 1940-1960; attitudes towards prominent political figures; 26 statements about public issues of the 1930's (SA,A, D,SD); political viewpoint; 15 items--general opinion; ranking of six interests in life; satisfaction with Bennington.

1964 Questionnaire--N
Political preferences for the 1964 presidential election.

Student Information Blank--T
The TALENT Student Information Blank was developed by accumulating a list of questions about students' personal experiences, family and home backgrounds, and plans for the future that appeared to be relevant to the research purposes of the study. The final questionnaire asked 394 questions. The questions are grouped under Personal Experiences, Family and Home, Plans for the Future.

Revised Student Information Blank--T
retested

Survey Questionnaire--Th
I. Plans for this coming fall
II. Undergrad. Academic Activities
III. Fields and Careers
IV. Descriptions of your undergraduate environment
A. Faculty in Major Field
B. Student Colleagues

College Registrar Reports, 1960--T&N
Form asked for both semesters, 1959-60 academic year:
Did not enroll (Did not return)
On probation during semester
Withdrew or dismissed before end of semester
Units
Grade Points
G.P.A. (if computed)

Student originally enrolled primarily in:
Baccalaureate degree program
Non-Baccalaureate terminal degree, certificate, or non-degree program
Student's original intended major

College Registrar Reports, 1962--T&M
For all students:
Name
High school
No record of enrollment
Date(s) of entrance
Student currently enrolled

For students not currently enrolled:
Withdrew voluntarily
Dismissed
Date(s) of withdrawal/dismissal
Number of terms on probation
Type of degree awarded, if any
Enrolled in non-baccalaureate program
Major or program
Latest known permanent address
Colleges to which transcripts have been sent
Transcript enclosed

Community Information--T&M
Chamber of commerce questionnaire: description; ethnic, religious and socioeconomic make-up; advantages of community; disadvantages; cost of living; chief industries; occupational trends; jobs for high school grads; unemployment; outflow of H.S. grads; unionism; impact of local college; main purposes of education; special problems facing high schools and college.

Comprehensive Questionnaire--T&M
75 items eliciting information about: academic interests and extracurricular activities; educational and occupational plans, values, and goals; occupational, cultural, political, and religious backgrounds of families; quality and kind of interest and encouragement received from parents; and post high school plans of peers. (T&M

Comprehensive Questionnaire #2--T&M
Nearly 100 items repeating some questions asked in the high school senior survey and including a number of new items designed to assess, on a broader base, the areas probed in the interview protocols.

High School Information, 1962--T&M
Fall 1962 information from high school administrators and head counselors on: faculty descriptions, educational purpose, student characteristics, college attendance, occupational entrance, educational programs, major school problems, evaluation of counseling services.

Interview--T&M
Structured but open-anded questionnaire in which graduates were asked to express ideas and feelings about: family background; the purpose of education; high school, work, college, and marital experiences; values, goals and activities.

Postcard Questionnaire, 1959--T&M
Activities since graduation

Postcard Questionnaire, 1962--T&M
Activities since graduation

Postcard Questionnaire, 1963--T&M
Activities since graduation--married, in armed forces, employed; if employed, title of job, where work; enrolled in school or college, which, graduate school, field, college degrees received, working for.